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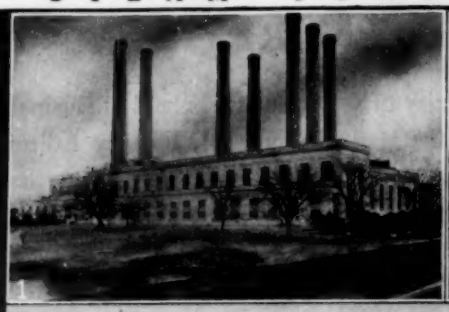
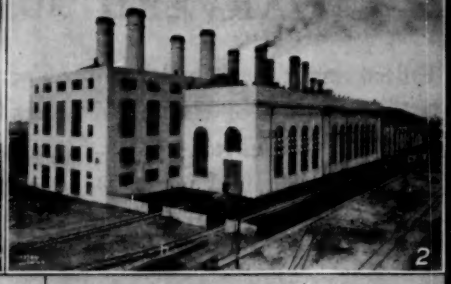
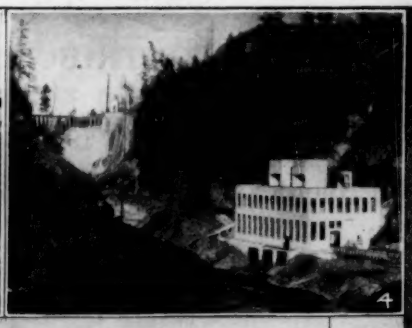
STEAM POWER STATIONS

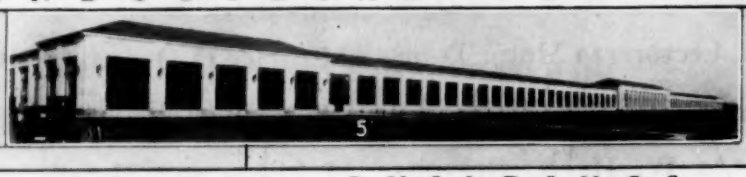




WATER POWER DEVELOPMENTS



INDUSTRIAL PLANTS



OFFICE BUILDINGS

RECENT WORK

1. Bennings Station, Potomac Electric Power Co., Washington, D. C., 75,000 Kw. Extension
2. Long Beach Station, Southern California Edison Co. Los Angeles, Cal.
3. Bartlett's Ferry Development, Columbus Electric & Power Company, Columbus, Ga.
4. Baker River Development, Puget Sound Power & Light Co., Seattle, Washington
5. Twin Cities Plant, Ford Motor Company, St. Paul, Minnesota
6. The First National Bank of Boston, Buenos Aires Branch, Buenos Aires, Argentine

STONE & WEBSTER

INCORPORATED

Boston, 49 Federal Street
New York, 120 Broadway
Chicago, First National Bank Bldg.
San Francisco, Holbrook Bldg.
Pittsburgh, Union Trust Bldg.
Philadelphia, Real Estate Trust Bldg.

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FRENCH INDUSTRY AND MASS PRODUCTION

By ANDRÉ SIEGFRIED

THE methods of industrial production are the crucial problem of our time, and it may be that, since mass production is proceeding on a large scale, we have entered into a new age in the history of mankind. It is important to understand that, considering the nature of French civilization past and present, France cannot approach such a problem from exactly the same point of view as that of the great majority of other countries. The economic individuality of Germany, of the United States, and even of Great Britain was not formed before the nineteenth century and even the second part of it; but the French economic individuality was largely completed long before that, and France is more adult than any one of them. Now, two huge events have taken place since; namely, the Industrial Revolution, which has transformed the conditions of production, and the World War, which has completely altered the relations of Europe with the other continents. France is thus, more than any other country, confronted with that vital question: In order to comply with new circumstances and to survive as a great industrial power, must she give up the very essence of her ancient economic activity, or does there remain, even now, some room for the traditional ways and means of the old French civilization? The problem is, in some respects, tragic, since it involves the very maintenance of the personality of a great people.

I

Various circumstances, the great influence of which is generally not sufficiently appreciated, have concurred in the framing of the French character.

First, France has always been and remains chiefly a rural country. The 1921 Census shows that only 46% of the French live in towns, while the corresponding figures are 80% for Great Britain and 52.4% for the United States. It should be added that, out of 8,591,000 country people gainfully occupied, more than 5,000,000—58%—are their own masters, working alone on the land, or, more exactly, cultivating their own land. Even now, France remains a nation of

country people, and when one endeavors to trace the descent of a family, even among the leading ones, the land is seldom far behind. There is no possible understanding of France if this point is not reckoned at its full value.

Then, France is a country of handicraftsmen; even after recent and important evolutions, such as the reconstruction of the northern departments and the return of Alsace-Lorraine, it has not decidedly become a country of great industry. Out of 21,721,000 people given to active occupations, only 6,181,000—28%—belong to the industries of transformation. Among those 6,181,000, only 4,027,000—65%—are regular industrial workers; 683,000—11%—are employers, which shows the great number in France of small employers; 1,162,000—18%—work alone independently or are not regularly connected with employers. Out of 4,000,000 of regular workingmen, only 774,000—19%—are employed in factories of more than 500 workers! The conclusion is that France is a country of artisans: the village joiner, the motor-car mechanic, the *couturière* even in the great *maison de couture,* the vine-grower, the gardener who raises vegetables or fruits, all belong to that type of workers, and they are undoubtedly the most typical of the French people.

Then, in order to complete this survey, I should add that France is also and, even after the war, remains a country of *bourgeois.* Compared to the workingman, the bourgeois is essentially a man who possesses reserves. Although the reserves of the French have largely been recently destroyed, they continue to keep some and, what is more important, they have started again reconstituting them. Most of the French, even the most advanced in politics, share to some extent the bourgeois state of mind: they are thrifty and do not feel safe if they have not accumulated some small capital for their old age; their houses are well kept, their linen is in good order, and their private budgets are in most cases in a state of equilibrium.

Now, these are the kinds of Frenchmen whom the foreigner has real difficulty in knowing; he does not easily come in touch with the man on the land; nor does he frequently meet the artisan; and, as the bourgeois somewhat brusquely defend the door of their homes, the spirit of the environment where they live often escapes the observation of outsiders. This is a severe handicap for the foreign students of French life, since it is utterly impossible to attain a thorough knowledge of France without a true appreciation of these three types of Frenchmen.

Economic circumstances, on the other hand, have largely contributed to the formation of the French psychology. The first factor of great importance is the economic independence of the nation: it depends on foreign trade neither for imports nor for exports to any considerable extent. From the point of view of imports, it is true that many raw materials are lacking: the totality of raw cotton, 93% of the raw silk, 92% of the raw wool, 26% of the coal, practically all the mineral oils, have to be brought from outside; in the total imports, raw materials amount to 66%. But France possesses, on her own territory, most of the foodstuffs she needs, and, even in bad years, the quantity of wheat which must be imported does not exceed 15% of the country's consumption; foodstuffs are only 20%, and manufactured goods 14% of the total imports.

As an exporter, France is not more dependent on foreign markets; she exports mostly finished products and food-

stuffs prepared for consumption, but the relationship of exports to production is decidedly small. Only one industry, silk, is exporting over 80% of production; metallurgy and motor cars also export a fair amount; but the percentage of production exported is only 25% in cotton manufactures and 33% in woolens. The great majority of French industries are working mostly for the domestic market. Even after the war, and although the Greater France of the Treaty of Versailles feels obliged to consider foreign markets more than she did before, these conditions of relative economic independence still prevail, to an extent which neither Germany nor Great Britain has the privilege of knowing. The result is a feeling of economic security, the sensation that the need of relying on foreign lands is not pressing; the French are attracted outside their frontiers neither by the necessity of buying food nor by the urgency of finding external markets. This independence, which is probably second to that of no other country except the United States, is evidently the most striking factor of the French economic personality, when considered from the point of view of the relations with the outside world. Nature has not given to the French the privilege of a safe political frontier, but they never are, like the British, afraid of being starved, and they are not haunted, like them, by the almost terrifying necessity of finding customers.

The French character reflects all the colors of such an atmosphere. At bottom, the Frenchman is essentially an individual; he loves personal independence; he prefers working alone; he is not a conformist. Real defects result from such facts. For example, the French love their own country so much that they frequently hardly care for the foreign world; they may thus ignore great things which are done outside. On account of that isolation, which is not always healthy, they are apt to lose that alacrity in making new improvements, in keeping step with most advanced ideas of efficiency, which is the very soul of American progress; for the same reason, they are mistrustful and reticent, such mistrust being probably traceable to their peasant orgin.

But precious qualities are also derived from that individualistic formation. Professional pride in work well done is essentially a French tradition; when not disgusted by insufficient wages, the French worker takes a keen interest in what he is doing, the mind of the artisan still living in him. Speaking of the early years of Charles Péguy in Orléans, the frères Tharaud write: "He had known there a very ancient humanity whose original culture, formed by the local traditions and a secular experience, owed nothing or nearly nothing to the outside world, a population which was very close to the land, a peasant-workingman people, an artisan-people, still almost completely rustic, which brought in the practice of his trades the oldest virtues of the land, an incredible pride in the work thoroughly done, the religion of handicraft, in short a very ancient society of men, a world of the past, nearer to the ancient régime than to the France of today."[1]

It is not an exaggeration to state that, in many cases, even nowadays when some of these characteristics are fading, the French often work for the glory of the thing and, even more often (especially on the land), on account of a deep and obscure instinct. M. François Mauriac writes: "Cybèle has, in France, more worshippers than Christ, the peas-

[1] *Notre cher Péguy*, by the frères Tharaud, page 19 of the French edition.

ant has only one religion, that of land; he owns land less than he is owned by the land . . . ."[2] And such a statement is hardly exaggerated.

But here again, defects appear which are born of these very qualities. The Frenchman, at bottom, believes more in the virtue of intelligence than in the methods which the experience of others has carefully prepared; he too easily thinks that brains can conquer everything; he rises to deep sense of cooperation only in great circumstances, and then, as during the war, for instance, he achieves wonders. But normally he rather lacks the sense of social solidarity and "service"; he is sociable more than really social. The consciousness of the social duty is not absent from him, but he has it mostly from the angle of family life: his great quality of thrift (which is not always a virtue) belongs to the list of family virtues; although he has but few children, and perhaps because he has only few, his devotion to them is astounding. In short, France has been formed by a rural civilization, to which the great industry of modern times has simply been added as a superstructure which does not profoundly change the original basis.

I doubt whether foreigners have soundly judged this original combination of virtues and defects, whether they have not occasionally called defects a virtue and *vice versa*. They believe us to be light: in the conduct of private life we are rather serious and, in dealing with money matters, we occasionally are hard like peasants; they believe us to be inconstant: we are obstinate in our conceptions based on logical arguments, and not nearly so supple as the Britishers; they believe us to be tricky (and I admit we occasionally are): but, in the practice of our daily activity, we are traditionally conscientious and careful; they believe that we live, all the year round, "la vie de bohême": but we probably are less "bohême" than the Anglo-Saxons and much more attached to the daily routine of family life; they persist in believing that we are revolutionary: and we probably are the most conservative people in Europe! The truth is that several of our qualities are out of date, since they belong to a civilization of artisans, of agriculturists, of refined society people, descended from the seventeenth and eighteenth centuries. Such qualities, despite their strength and their charm, partly prevent their owners from adapting themselves to the hasty rhythm of modern production. With these characteristics of yesterday, the place of France in the world of today raises a problem which we now must discuss: To what extent are the French fit for mass production, and to what extent should they adopt the methods of the new industrial world, especially represented by American genius?

[2] *La Province*, by François Mauriac.

II

We must admit that mass production does not correspond to the economic gifts of France. She has neither coal nor great supplies of labor, like Germany and Great Britain. Since she has specialized in furnishing the national market, she must manufacture articles of great variety of types; and this necessity is even greater since the French have never been taught to direct their tastes into fixed and limited avenues. It is especially difficult under such conditions, to standardize production, and this is the main reason why France is handicapped in the fabrication of articles produced in the Henry Ford style. With 40 million customers, the

French market is not an ocean deep enough to support the huge vessel of a great modern industry. I do not mean that France is unable to export. She does it, and occasionally in the most brilliant manner; but she succeeds mostly with the refined product or, at least, with the product of a simply good quality, where the raw material holds little place by comparison with the creative interference of the individual. In the exports of 1925, the manufactured goods count for 65%, the raw materials for 27%, and the foodstuffs for 8%; but many of these raw materials are already partly transformed by the skill of specialists, and the foodstuffs, like wine, for instance, represent a good deal of technical skill and art.

Serial production does not then appeal to the Frenchman, partly because he does not achieve it so well as the others, and partly because centuries have made of him an artisan who loves work carefully, artistically, and slowly done rather than the prestidigitatorial intoxication of speed and mass efficiency. Our employers will, all of them, relate the same experience: From the point of view of intelligence, initiative, and personal skill, the French workingman is among the best in the world. But he must take a personal interest in what he is doing, lacking which he easily falls below the level of the most ordinary workers. Now serial or mass production requires, besides material factors which France hardly possesses, a devotion to the mechanical aspect of work in which several of the best French qualities are practically of no use. The instinctive resistance of the individual, whether as a producer or as a customer, is probably the main reason why the methods of standardization or rationalization have been, up to now, less popular in France than in any other country. Of course, the interest taken in American methods of production is keen; one cannot open a paper or a leaflet, without reading "standardization," "rationalization," "Taylor system," and so forth; but it would be idle to deny that there is some sort of reluctance, not traceable merely to routine or to fear of new ideas. There is partly the experience of the small producer who knows, because he has perhaps tried it, that big machinery in a small plant does not pay; there is also the nostalgia of the individual who would prefer to produce intelligently, if possible; there is also the undisciplined mind of the French buyer, who (childishly perhaps) hates being bamboozled and compelled, in order to aid standardization, to wear the same hat, smoke the same cigarets, eat the same food, share the same ready-made ideas as his neighbor.

The problem, here, is not to know whether the French like better to keep other methods, but to ascertain whether they can do it without being ruined and reduced to a state of complete inexistence in the group of modern producing nations. We may dislike mass production and consider it not wholly a progress of civilization, but can we manage to do without it and can we succeed in replacing quantity by quality and standardization by individuality? The answer to such a question is closely linked with the character of the modern customer, not merely in France but also in the great world market.

The end of the nineteenth century saw a democratization of the international customers. A new wave of buyers then appeared, who preferred the cheap, though ordinary, articles, provided they had some brilliant appearance. Such buyers did not want an article which would last long; on the contrary, if it did not last, there was a

pretext to change it often and a chance always to secure an up-to-date possession. With such customers, the traditional French production was decidedly handicapped: we were justly proud of our durable products, of our everlasting machines, of our steam engines still efficiently drawing trains after a full century! New generations of customers liked better, in the bottom of their hearts, the too famous *schlecht und billig* products, and the evident superiority of the French fabrics often escaped their vision.

We may well wonder whether a new phase, in the transformation of the modern buyer, did not begin with the war. There has been born a class of people so rich that they, literally, do not know what to do with their money. The psychology of these *nouveaux riches* allows the development of regular and successive phases, such as are developed by diseases. At first they indulge in any amount of eccentricities, but the normal level of their life quickly tends to become civilized. They then become regular customers for fine qualities of wares and, an essential observation from the point of view of the French seller, price is hardly of any importance to them. Such people have appeared, since the war, in practically every country, and especially outside Europe.

At the same time, the world has watched a growing tendency of former agricultural nations towards industrialization. Behind ever higher tariff walls, such nations have built innumerable plants and most of them begin to produce the same kind of articles which, for over a century, they have been accustomed to buy from the old continent. Of course they cannot at once succeed in making the finest qualities, so that a good outlet remains for the best-equipped industries of the old countries; and, at the same time, they immediately need, in great quantities, machinery for their plants. Thus there remains an increased possibility of sale, not exactly for the ordinary industrialists of Europe, but on the contrary for the most refined and developed of them. I suppose it is not overoptimistic to state that a period is beginning when not only the well-made article, but even the choice or luxurious article, may strike again its full advantage with the customers en route towards wealth and civilization. . . . . And here comes French industry's chance.

III

Such contradictory tendencies have not failed to affect, in a contrary way, postwar French industry. Since, while mass production nearly everywhere prevails, there remains an unexpected chance for the individualized and *de luxe* article, is there not a strong temptation for many French producers not to abandon wholly the old French tradition?

In fact, two opposed tendencies may be observed in France since the war: the first asserts the persistent value of the *produit de qualité,* the second is strongly affected by the attraction of mass production. To any one who has breathed the atmosphere of France in the past few years, it is obvious that American methods have attracted a close and even enthusiastic attention; but it is not less obvious that a marked reaction against them has brought back numerous employers to the very essence of quality production. This latter spirit is mostly felt in the traditional industries of France, such as the textile, linen, and garment industries, perfumery, the *articles de Paris,* and even the export of refined foodstuffs. But the other one

is distinctly noticeable in those industries which have been transformed, developed, or even almost created by the war, such as metallurgy, mechanics, or chemistry.

It is principally the growing wealth and refinement of the international customer which incites, even more than before, certain French industries to stick to the production of quality. Since the buyer is not limited in his purchase by narrow considerations of money (during the inflation period he has been an easy spender), the cost of production merely becomes a secondary factor. The essential is to be found in the perfection and originality of the article. It thus becomes very difficult immediately to compete with those of our industries which have behind them a complete century of artistic tradition. The best way for them to succeed and to escape possible competition from foreign firms is to give a growing share in the fabrication of the article to the initiative and workmanship of the individual, to specialize in the high qualities produced, to increase (instead of reducing) the number and the originality of types.

This very spirit is prevailing in our great industry of textiles and garments, especially when it approaches the most refined and artistic creations. In such creations, we obviously are stronger and less vulnerable to competition when the creative spirit grows more intense, when the quality is finer, and when the article bears a character of more assertive individuality. This share of personal creation, in these fine industries which are so authentically French, is distinctly like national patrimony: the creator, in such cases, may not necessarily be a specialized agent in the firm; he may not necessarily be the technical designer of new *modèles;* he may not be the employer himself. In fact, everybody in the firm may share in the creation. Often it is the very atmosphere which bears a creative power, and you will perhaps verify the fact that such an atmosphere cannot easily be transplanted. The competition which aims to replace us in foreign markets is dangerous, of course, and the French do not underrate it; but our best defense is probably simply our French civilization. It is not possible to take it away from us by seducing with golden offers the best of our specialists; it has happened that they have lost their creative genius when they have left behind them the French atmosphere, just as foreigners have gained that genius by residing among us.

It then appears that, in that domain, the spirit of mass production does not necessarily win the case: the cheapness of the cost is not the main factor to be considered, and the series tends to destroy the individual value of the product that is its very *raison d'être.* A French dealer in silk products, who knows America well, was speaking to me the other day of an American silk factory which makes only 14 articles with 800 looms; but, at the same time, a silk factory of Lyons makes 81 articles with only 200 looms. Should such a French factory standardize its production, according to the latest Henry Ford fashion? Most French manufacturers of silk would, I believe, answer in the negative.

The same tendency is evident in a quite different province, that of the French exports of foodstuffs. What we sell outside is not the current and ordinary agricultural product, but a refined article, really manufactured, not perhaps by machinery but by some amount of science, art, and taste. The customers of such products will admit that they pay higher prices, but they look to quality. I might quote, as instances of such

a kind of production, wines, champagnes, and liqueurs, fruits for the table, vegetables, *primeurs,* flowers, and also some of these *mets préparés* which demand so much skill and refinement, such a sense of tradition in the maker, that many of them are literally inimitable. The winning factor, there, is probably the patient work, the rural tradition of the gardener, the vine-grower, the peasant himself. You must admit that he would not work well, that he would not work efficiently, if he were to do it *"à l'australienne"* or *"à l'américaine."* Ten acres, worked by him with a ceaseless devotion, will yield more interesting results than 40 acres, worked elsewhere by hired labor not loving the land and impatient to leave work at the end of the traditional eight hours. I am at pains to explain this, because the root lies in this fact that France is a special kind of landed civilization, an old civilization which the Anglo-Saxon world has some difficulty in understanding, which at bottom it hardly admires, and by which the French peasants really draw close to the marvelous patience and skill of the Chinese and Japanese servants of the land.

Parallel to this strong attachment to a distinctly French tradition grows another, hardly less powerful, tendency towards mass production. It existed, of course, even before the war, and such industries, where mass production is a necessity, had already long ago begun to follow the American example. But the influence of the war has been decisive. First, between 1914 and 1918, the fabrications relating to national defense had to be led, not in the spirit of the quality, but in the spirit of the mass. Then, in 1918-1919, the Treaty of Versailles gifted France with the rather heavy present of an ultra-powerful metallurgy. The return of Lorraine in the boundaries of France has doubled our capacity of production in iron ore (40,000,000 tons instead of 22,000,000 before); it has also doubled or nearly doubled our capacity of production in pig iron (8,800,000 tons, instead of 5,000,000 before). Lastly, since the departments of the North were ransacked and had practically to be reconstructed, it was necessary to conceive the remaking of our northern industries from the point of view of a *plan d'ensemble.* The greatness of the program, the powerful means to which it had recourse, the advantage of starting entirely anew, just as on a blank page, all these factors naturally have oriented our renascent industries of the invaded provinces towards the most perfect, the most standardized methods of the great modern industry.

On that ground, contrary to what was said before, France is obliged to accept international competition, without having any special advantage: her conditions are those of everyone else (perhaps worse); her methods can be only the methods which international experience has proved to be the best for everybody, and no less for France. Such an atmosphere in no way calls to mind our previous description. Of course the skill and the technique of the French allow them to succeed here also; but we should not overlook the fact that material circumstances rather work against them here.

Such is, for instance, the case of the French metallurgy: it now can be compared, in strength, to the American, German, and British ones. But, while it possesses iron ore in almost limitless quantities, coal is cruelly lacking. Here the Treaty of Versailles has not brought harmony; the contrary would rather be true. Our normal production of coke amounts to only 3,000,000 tons, while

the normal consumption is more than 7,000,000. Then, too, France is a country where labor is scarce, and particularly so since the great losses in men which occurred during the war. Such circumstances oblige France to export at least one-third of her iron ore, without manufacturing it, and a very large percentage of the iron and steel produced in the national plants. We are thus, in a foremost branch of our industrial production, becoming exporters by force, not of quality but of serial products, in the sale of which the factor of price is primary. It will, of course, be necessary to reach, by skill and technique, the lowest prices possible; but it is not within the reach of our possibilities to bring it about that coal and coke may be found on our territory. Some new qualities, which are not the traditional qualities of the French mind, will have to be resorted to. Organization on a great scale, salesmanship, the recourse to national and international ententes will have to be considered. The fact that the *cartel de l'acier* now is a reality shows that the French have not failed to understand that, here, new methods should be adopted.

One may well wonder now whether the French mechanical industry will be drawn in the same direction as metallurgy, either because the increased steel production will give her new means of action, or because the capacity of production of the French plants has actually been greatly increased during the war. The problem is extremely interesting, because the two tendencies towards quality and serial production are here seen to be existing together. By tradition, the French mechanical industry works mostly for the domestic market; France exports only specialties: motor cars, textile machinery, sugar refining machinery, and so forth. Since the needs of the local market are varied and numerous, it is difficult having, to any large extent, a standardized production. It may also be added that the buying capacity of the national market is insufficient to allow an increase of production without a corresponding increase of exports. Now, in order to increase exports, it would be urgent to sell, not merely these specialized articles which are made in the French manner, but current articles. The evolution which would be commendable works here in a manner contrary to the course of nature and logic, since we should have to tend from the more to the less refined types of fabrication. The problem is awkward, since quality production may not give us exports of sufficient volume, and since mass production, with extreme standardization, will not necessarily suit a country without coal and deprived of the essential basis of a wide national market.

The motor-car industry gives, I think, a good idea of the methods and organization which may bring successful results for the French. It is an old export industry, since it exported even before the war more than 50% of its production. For many years, and especially in the beginning of motor cars, France has enjoyed an international reputation for the sale of fine cars. If it now would try to do what Ford has done for so many years, it would probably fail, owing to the absence of mass production. It can win only if it gives as much attention to invention and care as to cheapness in production.

IV

Of the two tendencies which we have analyzed, the first tends to distinguish France from the leading industrial nations of the present time and to justify

her persistence in maintaining traditional methods and conceptions; but the second directly throws the French into the international current. Neglecting the first fact would be a complete misunderstanding of modern France; but forgetting the second would be ignoring the great extent to which the war has placed her among the first international manufacturing powers.

This duality expresses the contradictory spirit which appears so strongly, among the French, when the methods of production are discussed by them. In the past few years, and especially in the past months, there has been as much talk about rationalization in France as in any other country. American methods, described to us by enthusiastic admirers, have created passionate, if not general, enthusiasm. Many of the employers are ready and willing to follow the best methods of efficiency which America is now teaching the world. But it is to be noted that the general reaction of opinion has not been unanimously one of joyful acceptance of a new gospel.

If I am not mistaken, many French business men accept standardization and mass production as an obvious necessity of our time; but they do not accept it without some reluctance. Each time standardization achieves a new conquest, America hails it as a victory of civilization, while France considers it with some melancholy. This is not through mere force of habit, but because she instinctively regrets the substitution of automatism, efficient though it may be, for the action of individuality. As we suggested at the beginning of this article, French civilization is based on values which may seem out of date in many new countries. The modern world prefers and worships speed and quantity rather than quality; it prefers material comfort to many other aspects of civilization; it places organization before individual action. Whether it is possible for any nation to prosper and even to live, without taking due account of these mighty changes in the conceptions which lead the world, is the most perplexing problem. It is easy to understand that such a problem is especially vital for the French. What they have presently to do is not simply to accept blindly the lessons of modern production, but to decide where and to what extent these lessons fit the conditions of present France. Some industries can continue to exist only if they are modernized—that is, standardized to the utmost—but others, by standardizing themselves, would lose their very personality and, truly, their very reasons for existence. The discrimination between these two kinds of industries, the choice of those which have to be Americanized and of those which should resist Fordization, is the great task of the next generation of Frenchmen. May I conclude that, even in the present world and probably more in the present world than in the one of yesterday, there seems to remain a special place for the traditional conceptions and qualities of the French. In order to succeed, there is no need for them to deny their own genius. It is necessary only that they should judiciously determine where this genius fits modern conditions and where it does not.

ECONOMICS OF MOTOR FREIGHT TRANSPORTATION

By ROY T. WELLS

WHEN it is realized for the first time, the cost of moving freight seems to be a startling part of the total national income. The freight revenue of the railroads is well toward five billion dollars a year. No accurate estimate can be made of the cost of moving goods by other means, principally by water and on the highway by animal and motor power. We may reasonably assume that the 2,500,000 motor trucks cost from $800 to $1,000 each, or at least two billion dollars. The cost may be considerably greater, but records are kept for too few to be at all definite. Water, animal, and other hauling probably cost as much as the trucks, so that one can hardly doubt that a tenth of the income of the country, estimated at around ninety billion dollars, goes to pay for freight transportation. Any item of expense that absorbs such a part of our total resources concerns us all, and any improvement in the efficiency of the transportation machine will benefit us all.

Increased efficiency of any part of the machine and coordination of all the parts, so that each will do the work it can do best, will help to lower this cost. One of the parts, the motor truck, will perform its service only when related to the other parts, so that this comparatively new agency will be used only for work it can do better than another, and will be given that work to do. Experience has shown that some work can be done best by horses. For example, hauling in very small lots, or for short distances, or where there is great street congestion is likely to be logical work for horse-drawn vehicles. Experience has shown, too, that shipments of package freight in less than carloads over moderate distances can very commonly be made by truck better than in any other way. When we come to bulk shipments, over distances of 50 or 100 miles or more, the probability is that the railroad will be the preferable means. Reasons for this classification of the logical fields of work will be given a little later.

While accumulated experience has demonstrated that usually one or another medium is best for certain classes of freight, too much traffic is still handled in some other way than the one indicated by that experience. And while the case is settled for a great deal of traffic, there is a large volume of transportation work done without its being known whether or not it is done in the cheapest way. No set rules can be given; each case is individual, and must be studied individually. There have been many disappointing results from substituting trucks for older methods of hauling, due to selection of the wrong equipment, unwise operating methods, or the use of trucks for work they are not adapted to do. With information available, it is rather simple to calculate the cost of a transportation job with trucks and to compare it with the cost by other means. Data of reasonable accuracy are at hand, and the cost of the comparison is nominal in proportion to the possible saving if large-volume transportation is involved. Such com-

TABLE I. TRUCK REGISTRATION IN THE UNITED STATES, 1920-1925

Year	Registration	Increase Over Year Before
1920	1,006,082	26.8%
1921	1,118,520	11.2
1922	1,375,725	23.1
1923	1,612,569	17.0
1924	2,133,028	32.0
1925	2,441,709	14.6

putation will be only of the money cost of doing the work, which is usually most important, though other considerations such as speed or possibility of personal control may be decisive.

Such a study will include quantities of goods and points between which they are to be moved, selection of routes and equipment for loading and unloading, choice of vehicles, with other matters peculiar to the particular piece of work to be done. Cheap handling may require specially designed containers or handling equipment. There may be need for special protection from weather, breakage, or theft. Choice of routes will require study of grades, road surface, and traffic conditions. If heavy or bulky goods are to be moved, it may be necessary to find the bridge clearances and the weight limits of roads and bridges. Next in order is calculation of the money cost by trucks and by other means available. The purpose of this paper is to show what the items in truck operating cost are, how to get from them the cost of a hauling job, if trucks are suitable for doing it, and why trucks are or are not adapted to do economically certain kinds of freight moving. The great and growing use of trucks in our transportation makes any contribution to their efficient operation useful.

In 1904 there were 410 trucks registered in this country. In every year since there has been an increase over the year before, varying from 10% to 100%. In 1925, the total had reached 2,441,709, according to the reports of the National Automobile Chamber of Commerce, with a production that year of 475,941 new vehicles. Some were exported and some were retired from service for various reasons, so that the increase in number in service was about 308,000, or 14% over the year before, the relative increase being fairly representative of the past five years but rather less. Table I gives the truck registration for six years, with percentage increase over the preceding year.

Quite as significant in showing the importance of the trucking business is the capacity of the vehicles. While this can be only approximated with the data available, we can get the figures of production of different sizes, including those

TABLE II. TRUCK PRODUCTION, 1920-1925*

Capacity	1920		1925		1920 to 1925	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
¼ ton or less	61,187	19.0	47,135	9.5	288,847	14.5
1 ton	164,240	51.0	351,566	70.6	1,286,579	64.8
1½ tons	35,424	11.0	43,649	8.8	152,474	7.7
2 tons	25,763	8.0	12,298	2.5	86,213	4.3
2½ tons	12,871	4.0	16,478	3.3	71,178	3.6
3½ tons	12,893	4.0	5,958	1.2	35,700	1.8
5 tons	6,441	2.0	7,887	1.6	35,919	1.8
Over 5 tons	3,220	1.0	12,481	2.5	29,772	1.5

*Statistics taken, or computed from these, in *Facts and Figures of the Automobile Industry*, 1926

built in Canada of United States design, which are given in Table II.

The number given in 1925 of trucks of over 5-ton capacity includes some not previously so classified and rather exaggerates the relative importance of that size as compared with earlier years. If it is assumed that the trucks in use in 1925 were distributed among the sizes in the same proportion as the 1920 to 1925 production, we will approximate the actual freight-carrying capacity. Probably the value found will be a bit too low, as the average life of the smaller vehicles is somewhat shorter than that of the larger.

Assuming this distribution and that trucks of ¾ ton and less may be called ¾, while those over 5 tons may be called 6 tons, we get for 1925:

Size	Number	Capacity
¾	354,049	265,537
1	1,582,226	1,582,226
1½	188,012	282,018
2	104,993	209,986
2½	87,902	219,755
3½	43,951	153,829
5	43,951	219,755
6	36,625	219,750
Total	2,441,709	3,152,856

or an average load capacity for the nation's trucks of 1.29 tons. Some years ago a check was made of several thousand trucks registered in Massachusetts, using blocks of a thousand picked at random from the registration of the year. The average capacity was 1.6 tons. Since in an industrial section the average size is rather larger than it is in the whole country, it is probable that the estimate of 1.29 tons for the whole is substantially correct.

Truck Operating Costs

The expense of operating a motor vehicle is separable into two groups of items. The first are such as continue day after day—when the vehicle is kept available for use—and are not affected by the amount of use. These items, amounting to about $10 a day for heavy-duty freight trucks, are usually termed fixed costs. They include the following:

1. Interest on the investment
2. Property tax
3. Registration or license fee
4. Garage
5. Driver
6. Insurance; liability, vehicle and load protection, and perhaps workmen's compensation

As soon as the truck begins to move, other expenses are incurred which continue as long as the truck runs and are substantially proportional to the mileage. For this reason they are called mileage costs, and include:

1. Gasoline, or battery charging with electric trucks
2. Tires
3. Lubricant
4. Repair parts and labor
5. Depreciation
6. Miscellaneous small items

These items will approximate 15 to 25 cents a mile for trucks of 2 to 5 tons

[1] In such cases depreciation should be estimated at not less than 10% of the cost. Since the life of a truck should be at least 80,000 miles, and it will have little value after 10 years, if it is run as much as 8,000 miles a year, depreciation may be taken at first cost less tires divided by an expected mileage of 80,000; if run less than 8,000 miles a year, the depreciation may be taken at 10%, these values being for heavy-duty vehicles. For a truck of the delivery class, the normal life may be taken as 50,000 miles or 7 years, and the depreciation figured on the basis of mileage or age, depending on whether or not the mileage is as much as 7,000 a year. Tire cost is omitted because a chassis will wear out several sets of tires, and it is necessary to include the tires as a separate item.

capacity, under ordinary conditions. The depreciation is often considered as a fixed cost at an annual fraction of the cost; but as use rather than age destroys a truck, it is more logically treated as a mileage cost. Occasionally a truck may be used so little that it becomes obsolete before it is worn out.[1]

The figures given are typical and are based on the records of trucks used in a variety of lines of work for which records have been kept. They are such as may reasonably be expected, but cannot be assumed as exact in advance for a particular piece of work. They can, however, be used to decide whether or not a detailed study is worth while, being raised or lowered to meet local conditions as judgment may indicate. The only way to get exact figures is to keep records of actual results, and for this several forms have been devised which are readily modified to meet the needs of individual cases.

If the mileage cost is multiplied by an assumed daily mileage and the fixed cost added, we get the cost per day, which, divided by the mileage, gives the cost per mile. These results are tabulated in Table III for 3 sizes much used in heavy work, rated 2, 3½, and 5 tons. Daily mileages from 20 to 100 are used, the first being too low for such trucks to be profitable in most cases, the latter being more than can be averaged unless conditions are favorable. Thus the working range is included. And since experience shows that 10% of the working days is as little as a truck can be expected to be out of service for repair or other cause, a 270-day year is taken, giving a yearly mileage range of 5,400 to 27,000. For the three sizes the fixed cost is taken as $9.40, $10, and $10.40 a day and the mileage cost as 15, 19, and 23 cents a mile.

Table III is for trucks loaded to the rated capacity. Unfortunately, it is often necessary to run with part or no load. In such cases the fixed cost will be the same, and there will be a small reduction of the mileage costs, although no comprehensive experimental data as to the exact amount have been obtained. Wear of tires, one of the large items, will be less, depreciation and the cost of repairs will be reduced, and there will be a saving of fuel. The total saving can hardly be over 15% of the mileage cost, possibly less. The figures, too, give the cost per mile, but in measuring the cost of transportation more is needed. The amount of work is measured not only by the distance run but by the amount carried, and is the product of the two in units that may be chosen, ton and mile being more used than any others and the corresponding transportation unit being the ton mile, one ton carried a

[1] *See preceding page for footnote.*

TABLE III. TRUCK COST PER DAY AND MILE

	AVERAGE DAILY MILEAGE				
	20 Miles	40 Miles	60 Miles	80 Miles	100 Miles
2 tons, cost per day	$12.40	$15.40	$18.40	$21.40	$24.40
2 tons, cost per mile	.620	.385	.307	.268	.244
3½ tons, cost per day	13.80	17.60	21.40	25.20	29.00
3½ tons, cost per mile	.690	.440	.357	.315	.290
5 tons, cost per day	15.00	19.60	24.20	28.80	33.40
5 tons, cost per mile	.750	.490	.403	.360	.334

mile. If the mileage just used is multiplied by the rating, we get the ton miles per day, and dividing the daily cost by this we get the cost per ton mile, the figure of real importance in selecting a hauling means. These values are given in Table IV for the same conditions that have been used and also the cost per ton mile at half load, on the assumption that fixed costs are the same and mileage costs 15% less.

Basic Laws of Operating Cost

Three basic laws apply to the cost of moving freight by truck, well illustrated by the tables. They are:

1. The ton-mile cost becomes less as the size of the truck is increased. Thus we find the cost with a 5-ton unit 48% of the cost with a 2-ton unit at 20 miles a day and 55% at 100 miles a day.

2. The ton-mile cost becomes less as the daily mileage is increased. With a 20-ton unit the cost at 100 miles a day is 40% as large as at 20 miles a day, and with a 5-ton unit it is 45%.

3. The ton-mile cost becomes less as the load carried is increased. The tables show the cost at half load nearly twice what it is at full load. This law is limited to a load not very much over that for which the truck is designed. When loaded too heavily, the wear and tear on the truck becomes so great that it overbalances the saving in other costs, and the total expense rises. Excessive speed is even worse than excessive load, especially on the tires, as many of the road shocks are proportional to the square of the speed and are proportional only directly to the load. No specific load value can be given beyond which further loading does not pay. It varies with several factors, of which road condition and skill and care of the driver are most important. It is doubtful that a regular practice of loading more than 25% above the rating is advisable, or that running above rated speed is economical.

The relation of ton-mile cost to size and mileage is shown clearly in Chart I, which gives the full-load, ton-mile costs of the tables.

Comparison of Horse and Truck

An interpretation of the chart and tables shows the sorts of work a truck is able to do economically. For very short distances, the choice is between horse and truck. The limit of daily travel of a draft horse is not over 20 miles in regular service, a haul of 10 miles out and return, to allow for stabling in the home barn. Beyond that the truck will be chosen.

TABLE IV. COST PER TON MILE, AT FULL LOAD AND HALF LOAD

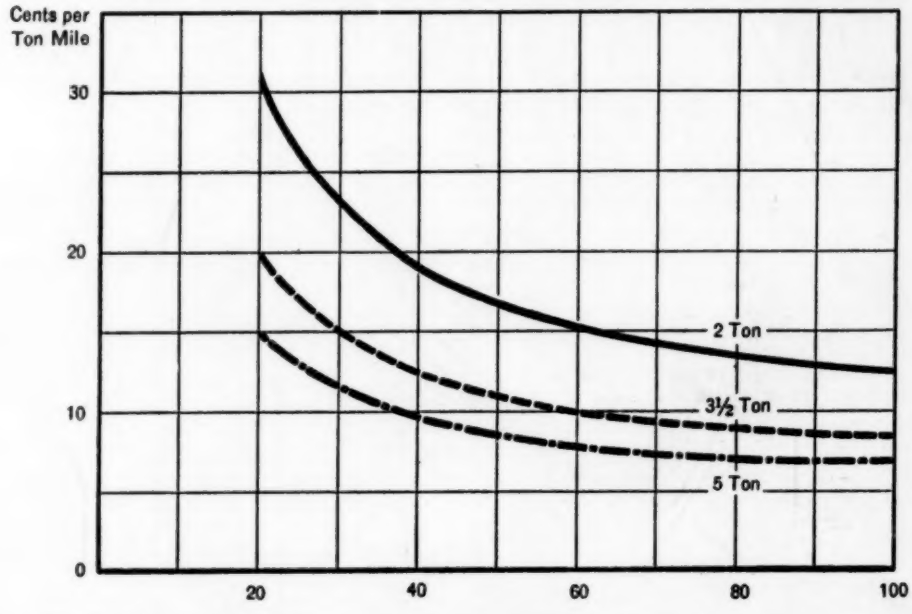
	Average Daily Mileage				
	20	40	60	80	100
2 tons, ton miles	40	80	120	160	200
2 tons, cost per ton mile	.310	.193	.153	.134	.122
2 tons, cost per ton mile at half load	.596	.363	.284	.245	.222
Per cent increase at half load	92	88	86	83	82
3½ tons, ton miles	70	140	210	280	350
3½ tons, cost per ton mile	.197	.126	.102	.090	.083
3½ tons, cost per ton mile at half load	.378	.235	.188	.164	.150
Per cent increase at half load	92	87	84	82	81
5 tons, ton miles	100	200	300	400	500
5 tons, cost per ton mile	.150	.098	.081	.072	.067
5 tons, cost per ton mile at half load	.268	.182	.148	.130	.120
Per cent increase at half load	90	86	83	81	79

While the horse drops out at 10 miles or less, there is a large amount of village and city hauling within that range for which a selection must be made. Several factors influence the choice, all through the effect they have on the mileage that can be obtained. A truck is mechanically capable of running night and day, with occasional stops for supplies, adjustment, and repair, the limit of its use being the endurance of the driver, while with horse hauling the limit is the strength of the horse. To operate profitably, a truck must be kept moving most of the time, and for this the loading and unloading time must be short. With horses a considerable time to handle the load may be no more than is needed to rest the team. Other things being equal, the shorter the haul and the more loads there are to be handled, the more likely it is that the horse will be preferred, especially as the handling time of the goods increases. A ton assembled in 10 packages might be a truck job, while the same in 200, 10-pound packages to be handled separately might be a horse job. The fixed cost of a standing truck is well over a dollar an hour, too much to justify its use as a loading platform.

A city coal dealer may supply fuel at retail, hauling it in bags which the driver carries from vehicle to bin. It takes as long to put the load on and off as to run to any point within a considerable delivery area, and in running to nearby points the vehicle may be actually moving only a small part of the day. Under such conditions a horse may travel about as far as a truck and do the work more cheaply, while a suburban dealer covering less concentrated territory might do better with trucks. The city dealer who finds horses best for nearby retail delivery may find trucks

Chart I

AVERAGE DAILY MILEAGE OF MOTOR TRUCKS



better for the same trade farther away from the yard. He may also supply steam coal to a factory, loading in bulk from chutes and dumping into a coal pocket. A heavy truck load can be put on and off in a few minutes and the truck be kept moving most of the time. With its higher speed it will make more trips than a team and haul heavier loads, making much greater delivery in a day. For such work a truck is clearly indicated, of as large capacity as can be kept busy. One suburban dealer handling coal, grain, ice, and building material over a large territory changed 10 years ago from horses to trucks. Since then, with fewer delivery men he has fully doubled his deliveries.

Even very short hauling can be cheaply done by truck, if the handling time is short enough. If we were still limited to hand shoveling, the cost of trucks in excavation work with the material moved only a short distance would be prohibitively costly. As it is, we use a steam shovel that fills a truck with one scoop in a very short time. The load is dumped mechanically by power from the truck motor as quickly, and the trucks can follow each other in a procession, being more effective than any other method. They get away rapidly from loading and dumping points, carry heavy loads, and run far enough in a day to do a profitable mileage.

When goods are to be moved regularly to or from one place, proper arrangements at the loading platforms may make a truck profitable when it would not be otherwise. A reasonable investment in loading facilities should run from $2,000 to $3,000, to save an hour a day of idle truck time.

Even if length of haul and handling time indicate the use of trucks, congestion may reduce the mileage so much that they are not advisable. On streets so crowded that there are often delays before a faster vehicle can pass a slower one, if there is considerable slow traffic, a truck may be little faster than a horse. If there is no chance to pass, a man with a wheelbarrow limits the speed of a racing automobile to four miles an hour. Congestion at loading platforms, causing long waits for a chance to take on a load, has the same effect. Such congestion causes serious losses in preventing the efficient use of trucks for work they could otherwise do economically.

Comparison of Truck and Railroad

When distance increases beyond the limit of horse-drawn vehicles, the choice changes to one between truck and railroad. To clear the ground it may be said that the bulk of the heavy freight hauling will remain on the rails, unless there is some development now entirely unforeseen in transportation facilities or methods. Skillful truck operation, with the ideal condition of capacity load all the time, may bring the ton-mile cost to 6 or 7 cents, possibly under 6 cents. In practice it will usually be higher, but even the lowest possible cost is several times the rail cost for heavy bulk goods carried very far. Any one of several items of truck cost may approach, driver's wages alone often exceed, the total rail charge where the haul is more than a few hundred miles. In this country nearly 2,500,000 trucks are in service with a load capacity of about 1.3 tons average each. They could not do over 18,000 miles a year even with skillful centralized operating control, so that the maximum possible performance is under 60 billions of ton miles a year. An average of half load and a mileage of 12,000 is as much as can be hoped for in practice and is more than is obtained, so that the real performance is not over

20 billions of ton miles a year, which is less than that of single railroads.

The field in which the truck performs its valuable service is quite limited. For ordinary merchandise, in less than carloads it may extend to 100 miles, but quite as often it is limited to nearer 50 miles. For some special shipments, which will be discussed later, the range is greater. For a one-day run, about 100 miles, it is faster than rail, often justifying its use for perishable goods or emergency shipments at advanced cost. For distances over a one-day run, rail shipment is likely to be faster, because railroad cars can be kept moving night and day with change of locomotive and crew, while running a truck night and day requires two or three men, with perhaps bunks on the truck and travel cost that is prohibitive. This handicap could be overcome only by establishing division points and crew schedules, impracticable unless with larger organizations than those now doing long-distance trucking.

It was found, in considering the choice between horse and truck, that anything, character of goods or handling conditions, which lessens the actual running time tends against truck economy. Comparing truck and railroad we find the reverse, the longer the handling time the more likely is the truck to be preferable. Most of the rail shipments, especially l. c. l., have to be hauled either to or from the rail terminal, many of them both ways, while when moved to destination by truck they are loaded and left until the end of the run. This means two handlings for truck against as many as six sometimes for rail. Such extra handling of goods taking considerable time may cost as much as a good many miles of truck run. Saving in cost of crating or containers is often an advantage in truck shipment, because goods which would need careful protection if sent in a freight-car holding a miscellaneous load can be loaded with no crating. This is especially the case with furniture, which takes a long time to load. The cost of crating furniture, the high freight rate, and the expense of shifting from truck to car and back with risk of damage make intercity trucking economical for much longer distances than with most other freight. On the other hand, bulk shipments of commodities like grain, coal, or gravel, loaded in car lots at spur tracks and unloaded in pockets or piles, handled by machinery and needing no crating, can never be profitably shipped far by truck.

General Conclusions

Thus comparing the truck with its two alternatives at the two ends of its working range, we find that in general the larger the shipment, the longer the haul, or the less the handling time needed, the more likely it is that the goods should go by the larger capacity agency, truck rather than horse, and rail rather than truck. Developments in the future may change conditions. For example, ways are being found to lessen the cost of handling and crating small lots. One that has promise is a steel box of size to serve as a truck body. This can be filled at a warehouse with l. c. l. goods, no more packing being needed than for a truck shipment, then loaded with a crane on a truck chassis built to receive it. It is hauled to a rail terminal and loaded with eight or nine more on a flat-car and sent to destination. Here the process is reversed, the container is loaded on a truck and taken to the receiver who empties it at his convenience. All the loading is done by machinery at small expense. This leaves

for the truck only a short haul at each end and is a step toward the most desirable coordination of transportation facilities, to give the best possible service at as low cost as can be reached.

Further cooperation is being reached through railroad operation of trucks and their association with existing trucking concerns to which they turn over work which the truck can do best. It is too early to say just what form such association will take. Perhaps the railroads will presently be prepared to take goods at the shipper's door, move them by rail or truck or by both as best fits the particular case, and deliver them to the receiver anywhere as a single transaction.

MARKETING BISCUITS AND CRACKERS[1]

By W. H. S. STEVENS

The Industry and Its Products

IN 1921, according to the *Census of Manufacturers,* the value of the product of the biscuit and cracker industry of the United States amounted to $187,509,000, and in 1923 to $211,788,000. These figures, however, include some bread, pies, and cake manufactured as subsidiary products, the census classification of biscuit and cracker manufacturers being based upon the product of chief value. The business is regarded as being in its infancy in this country. In 1922 the sales manager of the National Biscuit Company testified that the sales of biscuits in England were $4 per capita and in Canada $3 per capita, while in the United States they were not more than $1.[2]

There are in the United States some 200-odd companies engaged in the manufacture of biscuits and crackers. Of the total production, however, some 30% or more[3] is controlled by the National Biscuit Company, the largest manufacturer. The second largest concern, the Loose-Wiles Biscuit Company, does approximately 15% or 20% of the total business.[4]

Character of products. While the terms "biscuits" and "crackers" are frequently used synonymously with one another, "crackers" in a narrow sense refers to soda or oyster crackers, or a similar class of products commonly known as sponge goods. The soda cracker, of which Uneeda Biscuit may be regarded as typical, is composed of flour, water, salt, shortening, yeast, and soda, and is made by all the various biscuit companies.

Besides such plain or sponge crackers, these manufacturers produce a wide variety of sweet goods and cookies, iced goods, soft cake, and sandwiches that have a filling of jelly or icing and are sometimes iced on top and sometimes all over. The three chief ingredients entering into the manufacture of these goods are flour, shortening, and sugar. Secondary ingredients are milk,

[1] This discussion is based upon (1) the briefs and record in Federal Trade Commission Docket 31, *Federal Trade Commission* v. *National Biscuit Company;* (2) the briefs and record in Federal Trade Commission Docket 836, *Federal Trade Commission* v. *National Biscuit Company,* and the briefs in this latter case on appeal before the United States Circuit Court of Appeals for the 2nd Circuit; (3) the briefs in Federal Trade Commission Docket 837, *Federal Trade Commission* v. *Loose-Wiles Biscuit Company,* and the record and briefs in this case on appeal before the United States Circuit Court of Appeals for the 2nd Circuit. The page numbers in the record in Docket 31 refer to the original typewritten transcript; those in Docket 836 to the printed transcript before the Commission; and those in Docket 837 to the printed transcript before the Circuit Court of Appeals. The transcripts in question are referred to simply by their respective docket numbers.

[2] Docket 836, p. 230.

[3] According to the estimate in the National Biscuit Company's brief in Doc. 836, p. 21, 29.9% in 1921 on the basis of the census figures of commercial production of biscuits and crackers. The president of the National Biscuit Company testified that the National baked from 30% to 40% of the flour consumed by the industry (Doc. 836, p. 122), but a part of this flour is used in the production of bread and pies.

[4] "Nearer 15% than 20%," Wiles, in Doc. 837, p. 314, and 15% to 20% stated in appendix to respondent's brief, *Federal Trade Commission* v. *Loose-Wiles Biscuit Company,* Doc. 837, p. 9.

spices, essential oils, leavening agents, and water.[5]

There is a wide range in the number of varieties of crackers and biscuits manufactured by the different companies. In 1925 the National Biscuit Company produced about 375 varieties.[6] In 1919 a Chicago company was manufacturing only 4 varieties, all of which were specialties. Most of the companies for which information is available, however, manufacture a rather extensive line, and this appears to apply frequently to the smaller as well as to the larger companies. Thus in 1919 a three-oven concern on the Pacific Coast reported that it made 250 varieties, and nearly every one of between 25 and 30 companies for which the information is available in that year produced from 50 to 150 or more varieties.

Bulk and Package Business

Containers. Originally biscuits and crackers were marketed in barrels, wooden boxes, and cans. Later the can with the glass front permitting the display of merchandise was introduced, and still later the consumer package or carton. The National Biscuit Company was the pioneer, apparently, in both these changes. Shortly after its organization in 1898, this company discarded barrels and boxes and began packing in glass front tins. Later they adopted a consumer package, the well-known Peters In-er-Seal carton, a patented container, which was designed to preserve both the quality and flavor.

Bulk goods are put up in three or four standard packages; the glass front can, each of the three dimensions of which is about one foot; a smaller glass front can about two-thirds this size; a package called a "qu" which is a pasteboard caddy about the same size as the large can; and a smaller "qu" of the same size as the smaller can. Cans are also made without a glass front and sometimes with an attached exhibit of the product which the can contains.[7]

Many varieties of goods are sold only in bulk form, while others are sold both in bulk and in consumer packages. The largest package goods sellers in the National Biscuit Company's line are Uneeda Biscuit, Graham Crackers, Ginger Snaps, and Oysterettes. The staples among the bulk goods of the same company and also the largest sellers are soda crackers, graham crackers, gingersnaps, and oyster crackers. The company's largest selling brand is N.B.C. soda crackers.

Package goods are sold to the retailer by the dozen. Bulk goods are sold by the pound, the cans and boxes in which they are packed varying in weight, when filled, all the way from 5 to 30 pounds.[8]

Relative importance of bulk and package business. While the development of package goods satisfied a certain portion of the demand for biscuits and crackers, products thus put up by no means displaced bulk goods. The latter continued to constitute the major portion of the sales and still do so today. Though a few companies probably do as much package as bulk business,[9] most of the companies do a

[5] Davis, Doc. 836, pp. 2023-4. Hawes, *ibid.*, pp. 3241-2. Bliss, Doc. 31, pp. 968-9.

[6] *The N. B. C.*, October, 1925, p. 3.

[7] Bixler, Hawes, Doc. 836, pp. 187-8, 190, 3107-8. Bliss, Doc. 31, p. 968.

[8] Bliss, Doc. 31, pp. 967 ff. Tomlinson, Doc. 836, p. 129.

[9] The business of the Fort Smith, Standard, and American Biscuit companies a few years ago was approximately 50% bulk and 50% package goods.

considerably larger proportion of the latter. The National's business in 1923 was approximately 75% bulk, as was also that of the Iten Biscuit Company in 1919.[10] As high as from 80% to 95% of the business of several other companies has been in bulk goods,[11] and about 1919 the Perfection Biscuit Company, Fort Wayne, and the Richmond Baking Company, of Richmond, Indiana, reported only 1% and 2% respectively of their business to be in package goods.

Perishability. One of the most important characteristics of biscuits and crackers is a comparatively high degree of perishability. They deteriorate with comparative rapidity owing (1) to moisture absorption, (2) to loss of essential oils and flavors, and (3) to the tendency of shortening and flour to become rancid. After the absorption of moisture the product loses its most desirable qualities and becomes second class because it does not please the palate and is not so easily digestible. Animal and vegetable fats and oils develop staleness and rancidity because of heat, light, and air, and also contact with metal. Much of this deterioration it is impossible to eliminate even by reheating in the consumer's oven.[12] It is claimed that Uneeda Biscuits remain in natural condition not more than one week, but their normal life is one month and they are palatable for two to four weeks according to conditions. The Zu Zu gingersnap of the National Biscuit Company is said to deteriorate after 48 hours, and other products and other goods vary 1, 2, 3, or 4 weeks or more in life.[13]

Local Character of Production and Distribution

The perishability of crackers and biscuits accounts in no small measure for one of the fundamental characteristics of this industry—a highly local system of production and distribution. Only three manufacturers of crackers and biscuits may be said, apparently, to have a national distribution; the National Biscuit Company, the Loose-Wiles Biscuit Company, and the Johnson Educator Food Company. Moreover, though salesmen for the last-named company travel as far west as Kansas City, its business beyond this point has been largely by mail.[14]

Most of the other companies sell in a comparatively restricted territory consisting of a half-dozen, or fewer, states, or within a radius varying from 40 to 250 or 300 miles from the location of the plant. Even in the case of the two largest companies—National and Loose-Wiles—this principle of local production and sale is largely preserved. Each of these organizations operates several plants scattered

[10] Rated the third largest concern in the industry in 1923 by assistant sales manager Hawes of the National Biscuit Company.

[11] Peerless Biscuit Company, Maryland Biscuit Company, Taggart Baking Company, Craig Biscuit Company, Lakeside Biscuit Company, Sanitary Food Manufacturing Company, Kleeber Weyl Baking Company.

[12] In the life of the soda cracker, for example, certain distinct stages of deterioration may be recognized. From the moment the cracker becomes cool enough to eat upon leaving the oven deterioration begins. After a short time the cracker loses some of its crispness and even more of its flavor and becomes what is technically known as flat. In the next stage it passes from flatness to staleness, which is flatness to a greater degree. The cracker has lost more of its flavor and its zest, and considerably more of its crispness. The next step is the beginning of rancidity, which is easily recognized by the rancid taste and smell. When this point is reached it is no longer fit for human consumption.

[13] Davis, Doc. 836, pp. 2025 ff.

[14] Cullen, Doc. 31, p. 1493.

throughout the United States, and, with certain exceptions subsequently noted, each plant serves a relatively limited area. As of January 1, 1927, the former company was operating 27 biscuit and cracker bakeries (in addition to several bread bakeries) located in Chicago, New York, Boston, Philadelphia, Baltimore, Pittsburgh, Syracuse, Albany, Buffalo, Cleveland, Cincinnati, Mansfield, Zanesville, Grand Rapids, Detroit, Milwaukee, Minneapolis, Des Moines, St. Joseph, Kansas City, Salt Lake City, Denver, Houston, and other cities. About 1923 the Loose-Wiles Biscuit Company operated directly or through subsidiaries eight bakeries located at New York, St. Louis, Kansas City, Omaha, Minneapolis, Chicago, Boston, and Dallas.

The smaller bakeries of both companies, however, normally make a limited line, while the larger bakeries make goods which are shipped to all parts of the country. Uneeda Biscuits, for example, are made only in New York and Chicago and Nabiscos only in New York, Chicago, Pittsburgh, and St. Joseph.[15]

A similar situation exists in the case of certain products of the Loose-Wiles Company.[16]

While several other companies operate more than one plant,[17] the bulk of them are apparently single-plant concerns scattered over the country. Frequently they are very small, operating only a single oven as compared with some 224 operated by the National as early as 1917 and 158 operated by Loose-Wiles about 1919.[18]

Importance of Direct Retail Distribution

The perishability of these products is doubtless primarily responsible for the fact that the biscuit and cracker industry distributes chiefly to retailers rather than through jobbers. The local character of production and sale, however, may be assigned as a contributory factor, though this is, in itself, the result largely of perishability.

As is true of many manufacturers selling primarily to retailers, however, most of the biscuit and cracker companies do at least some wholesale business. Their reason for also selling the wholesaler is precisely the same as that frequently offered by other manufacturers selling chiefly to retailers but also to wholesalers—lower costs of distribution under certain conditions. "Whenever the expense is not prohibitive," says the vice-president of the Loose-Wiles Biscuit Company, "we go into the store of the individual retailer, for by that means we can best develop his and our business. In more or less inaccessible places where the expense is exorbitant we sell to the jobber."[19] According to the National Biscuit Company's sales manager, the idea of selling to the jobber is that when he has business out in the country where the company cannot reach, where it does not pay the company to send salesmen, that business belongs to the jobber. The latter company, however, claims that it does not make a practice of selling the jobber and, consequently, has no jobber's discount.[20]

[15] Tomlinson, Doc. 836, pp. 117-18.

[16] Wiles, Doc. 837, pp. 315-18.

[17] For example, in 1919 the Sawyer Biscuit Company operated two plants, one in Chicago and one in New York; the Lakeside Biscuit Company, one in Detroit and one in Toledo; the Iten Biscuit Company, three plants at Central Western points; the Pacific Coast Biscuit Company, four plants on the Pacific Coast; and the Tru Blu Biscuit Company, two in the same area.

[18] These figures were those given in the National Biscuit Company's brief, Doc. 31, pp. 5, 87.

[19] Willcockson, Doc. 837, pp. 621-2.

[20] Bixler, Doc. 836, p. 208.

Though few companies, if any, make no sales to jobbers, the direct retail method is dominant in practically all cases,[21] and a considerable number of companies dispose of 75% or more of their product on this basis.

While there is apparently some tendency for the extent of retail distribution to vary directly with the size of the organization,[22] it would be erroneous to assume that this is too general a characteristic, since certain of the smaller companies (measured by the number of ovens operated) show practically as high percentages of direct retail distribution as the largest concerns.[23] On the other hand, the smaller companies, like the larger, at times sell locally through retailers only, and endeavor to obtain outside distribution through jobbers. Thus, in 1919 the Tennessee Biscuit Company (operating two ovens) sold only to retailers in Nashville, but distributed through jobbers in several states outside that market. This was also true of the Fort Smith Biscuit Company at Fort Smith, Arkansas.

Several companies with a substantial volume of wholesale business have allowed special jobbers' discounts. Thus, the Sawyer Biscuit Company a few years ago gave jobbers 17½% on the business done from its New York plant, which was exclusively wholesale. Snell and Simpson, of New Bedford; the New England Biscuit Company, of Worcester; and the Maryland Biscuit Company and Becker Baking Company, of Baltimore, all doing from 20% to 25% of their business through wholesalers, allowed 20% discount to jobbers. Other concerns allowing special jobbing discounts were the Tennessee Biscuit Company, of Nashville, and the Century Biscuit Company, of Indianapolis (20%); the Shelby Biscuit Company, of Memphis (15%); and the Lindquist Cracker Company and Merchants Biscuit Company, of Denver (10%).

Branch Houses

Because of the perishability of biscuits and crackers, companies with a wide geographical distribution face a problem in supplying fresh goods promptly to the trade throughout the country. This problem is particularly acute in towns and cities where such a company has no plant of its own, but is selling in competition with a local manufacturer who can deliver goods practically fresh from the oven. The larger number of varieties also renders the distribution problem of the larger companies more complex. Thousands upon thousands of retailers buy less than $15 worth of crackers per month from any one company and many other thousands less than $50 worth. At most, the average retailer handles but a small proportion of the total number of varieties produced by any one company, yet each organization must sup-

[21] There are, of course, exceptions to this rule. For example, the Sawyer Biscuit Company, with plants in New York and Chicago, at the time of the Federal Trade Commission hearing in Docket 31, sold exclusively to jobbers from the New York plant and to both jobbers and retailers from its Chicago plant.

[22] In 1922 the National Biscuit Company sold above 99% of its goods to retailers; Doc. 836, p. 208. About 1919 the Iten Biscuit Company sold practically all its output to retailers; Pacific Coast Biscuit Company, 85-90%; Johnson Educator Food Manufacturing Company, 90%; Tru Blu Biscuit Company, 99%.

[23] For example, the Taggart Baking Company, of Indianapolis, a few years ago operated two ovens and sold 95% direct to retailers; and the Richmond Baking Company, Richmond, Indiana, a one-oven concern, sold "almost exclusively" on this basis, except in the state of Pennsylvania, where it sold to jobbers.

ply fresh goods to meet each particular retailer's requirements.

In order to maintain as complete a stock of goods as possible and to supply the same service to the trade as that rendered by local bakeries, a number of the larger companies have established so-called sales agencies, which are, in effect, branches or distribution depots, at various points throughout the United States. In 1923 the Loose-Wiles Biscuit Company maintained about 100 of these branches in various parts of the country east of the Rockies.[24] As of January 1, 1927, the National Biscuit Company was operating 223 sales agencies[25] in 212 cities from Portland, Maine, to Los Angeles, California, and from Seattle, Washington to Key West, Florida. In addition this company also maintains 24 "distributing branches" to which the products are delivered from their various bakeries as soon as they can be packed. These distributing branches are located at transportation centers advantageous for redistribution to the various sales agencies, but in order to supply goods in as fresh condition as possible these "distributing branches average to carry stocks that are sufficient for between three and four days' requirements only." The sales agencies order in carload lots from the distributing branches, each requisition usually calling for only enough of each variety to meet the demand until the succeeding carload is received. In many of the largest distributing branch centers, however, the products are distributed to the sales agencies daily by motor trucks.[26]

This system of branch-house distribution also applies to some companies selling in a much more restricted area. For example, about 1919 the Famous Biscuit Company, of Pittsburgh, was operating 10 branches in Ohio, Pennsylvania, West Virginia, and Maryland; and the Perfection Biscuit Company, of Fort Wayne, Indiana, had agencies at Jackson, Michigan, and South Bend, Indiana.[27] Branches or agencies are also operated by the Iten Biscuit Company.[28]

Each branch or sales agency consists of a warehouse in charge of a sales agent, and is the headquarters of a force of salesmen who cover the surrounding territory. The number of salesmen, of course, varies with the size and importance of the agency. For example, in 1925 the El Paso agency of the National Biscuit Company had only 3 salesmen attached to it, while Philadelphia had 86 and Chicago 85.[29] But each sales agent has under him whatever number of salesmen may be necessary to cover properly the territory assigned to him. The total number of the National's district salesmen in the middle of 1925 was slightly over 2,000.

Sales Organization of National and Loose-Wiles Biscuit Companies

In the National Biscuit sales organization the selling work is directed by the sales manager with headquarters at New York. A sub-headquarters, however, is maintained at Chicago in charge of a general district sales manager who has jurisdiction over what may be termed the Middle West.

[24] Wiles, Record Doc. 837, p. 315.

[25] Including agencies in cities where factories are located.

[26] *The N. B. C.*, October, 1925, p. 4.

[27] Simeral, Doc. 31, p. 1306, Frank, *ibid.*, pp. 1599 ff.

[28] *Ibid.*, p. 1822.

[29] Revised List of National Biscuit Company District Sales Managers, Selling Branch Sales Agents and Salesmen as of July 1, 1925.

With the exception of a few of the largest selling branches, the National's sales agencies are divided into 19 groups or districts, each under the direction of a district sales manager to whom the various sales agents report. The smallest district in 1925 had only 4 agencies and 43 salesmen. The largest district, measured by the number of agencies in the same year, was composed of 18 branches and a sales force of 161 men. The largest district in number of salesmen comprised 14 agencies and 230 salesmen.[30]

In the case of the Loose-Wiles Biscuit Company a different system of sales organization from that of the National is employed. This is due, no doubt, to the fact that the business of each Loose-Wiles bakery is kept separate from that of every other bakery. Each bakery has its own distinct territory which is covered by its own separate sales organization under the direction of a general sales manager for each bakery. The territory of the Loose-Wiles St. Louis bakery consists of Louisiana, Mississippi, Alabama, one or two towns in Florida, a part of Kentucky, a part of Tennessee, a portion of Illinois, a part of Missouri, and a small part of Indiana. The territory of the bakery at Kansas City embraces Kansas, Oklahoma, part of Missouri, and portions of the Southwest; while the territory of the New York bakery covers New York, Pennsylvania, the District of Columbia, and all the eastern states as far down as Florida.[31]

Mechanics of Selling, Delivery, and Collection

In general, the method of selling employed by the various biscuit and cracker manufacturers is much the same. Each salesman has a schedule of customers which he works regularly. City salesmen commonly call on the trade twice a week. Remote parts of the city and the small trade are frequently covered only once a week. In outlying territory the salesmen often call still less frequently. Thus, in the case of the Tru Blu Biscuit Company, though city salesmen call on the trade twice a week, they average only once in every three or four weeks in the outside areas of Washington, Oregon, Idaho, and California, where this company sells. The city salesmen bring the orders into the agency or plant in the evening after they have finished the day's work. These orders are prepared and gotten up by the shipping department, and the billing department makes out the invoice for each individual order. The goods are loaded on the wagon the next day, or in some cases the second day, if there is a long trip to be made, and the delivery man hauls them to the various stores. Goods are delivered in many cases twice a week to the stores, but frequently only once a week. Drivers' routes are laid out for them and they deliver from a manifest that contains the names of the customers and the amounts billed to each. The driver also has invoices indicating the goods to be delivered.

A large number of grocers, particularly the small individual storekeepers, are c.o.d. customers, and the driver collects from them on delivery of the goods. In other cases the customers pay every week or twice a month. In the case of these charge account deliveries and those to chain-store units, the driver obtains a receipt from the merchant. In some cases a separate ac-

[30] *Loc. Cit.*

[31] Appendix to brief of Loose-Wiles Biscuit Company, Doc. 837, pp. 7-8; Main, Doc. 837, p. 62, McQueeny, *ibid.*, 291-2.

count is kept for each chain-store unit. In others all the chain unit purchases are lumped together. On completing the delivery the driver returns to the agency or plant and settles his manifest with the office.

Outside the cities the National has a number of bonded representatives in various towns to whom goods are shipped and who deliver direct to the retailers in that local territory. Aside from this, the out-of-town shipments of the manufacturers are largely l.c.l directly to the dealer's shipping point, the dealer hauling the goods to his store himself and returning the empty cans to the company.[32]

Duties and Functions of Salesmen

Individual stores. Biscuit and cracker salesmen have many duties to perform in selling independent retailers. In the first place, the salesman is required not to overstock the grocer and to sell him only such goods as can in the judgment of the salesman be sold in that particular store. It is also one of his principal duties to look after the grocer's stock and keep it in good condition, "tidy up" the bulk and package goods, and make the display presentable and attractive. If the salesman did not "call around," the goods in the smaller stores would frequently not be properly displayed. In perhaps 8 out of 10 cases the retailer depends upon the salesman to keep the stock in perfect order and salable condition. The first thing, therefore, which the salesman does when he calls at the average retail store is to attend to the display racks. If the retailer has bought from a particular biscuit company, he usually has one of their racks, which is a fixture in the store, containing 6, 9, 12, or 20 cans of bulk goods. The salesman "fixes up" these cans, cleaning and polishing the glass covers, and removing the broken cakes or any excess paper. The slow-moving bulk goods are brought to the top of the rack and the faster selling lines are placed on the bottom shelves. Package goods are straightened up and dusted off, and the slow sellers brought to the front. In cases where the merchant carries some stock on hand, the salesman often refills the bulk cans and, also, brings up fresh package stock and places it back of the older stock. Price tickets are then examined, for the dealer not infrequently misprices the biscuit. A cake that runs five for a nickel one merchant may mark eight for a nickel, while another will label it six for a dime. A 6-cent package may be marked a dime, or, in other cases, priced at 15 cents. When this work is completed, the salesman checks the dealer's stock, makes a note of everything in which he is short and, getting his attention, urges him to buy the goods he needs, indicating the quantity on hand and the quantity short.

After the regular orders are taken, the salesman's next duty is to introduce and sell any special or new items. When a company gets out a new product, the salesman takes this around to the dealers and passes out samples to the merchant and his clerks or anybody that chances to be in the store at the time. To sell this new cake the merchant must know what it is like, how many it runs to the pound, what it costs per pound, and what profit he will make.

For the development of the retailer's business, and, of course, that of the

[32] Roselle, Doc. 837, p. 800, Hawes, Bixler, McNeil, Menefee, Seeman, Krause, Donovan, Swearingen, Streitmann, Doc. 836, pp. 133-34, 199-200, 533, 610, 618, 777, 1299, 1695, 1721, 1917.

particular biscuit company as well, it is also among the duties of the salesman to take care of, or assist the retailer in, advertising the goods and keeping them before the public. The work of the salesman, therefore, also includes trimming the retailer's windows, making counter displays, and putting on demonstrations of the goods in the retailer's store. In some cases the salesman even accompanies the order clerks of the retail grocer on their routes, canvassing the housewives with samples of goods and thus endeavoring to build up business for the retailer as well as for the cracker company.[33]

Chain stores. In the distribution of biscuits and crackers through chain stores the work required of the salesman in each chain-store unit is claimed to be much less than in the individually owned stores. The buying and selling policies of the chain-store system are usually determined at the headquarters of the system or some subdivision of that system. Definite instructions or directions are given from these headquarters to the various chain unit managers as to the methods of displaying goods, the prices to be charged, the use of particular articles as leaders, and the conduct of special sales. As a rule, such instructions are uniform for all units of the particular chain system. The actual sales of the goods are made, not at the chain unit, but at the headquarters of the chain or some subdivision thereof. The sales agent or salesman goes to the headquarters of the chain store and opens negotiations with the man in charge in regard to the handling of the company's products. If the chain agrees to take on the line, arrangements are made as to the extent to which they will be handled. On account of the great variety of the products of most of the manufacturers, it is obvious that any chain-store unit can scarcely handle all of them and that, in consequence, a selection must be made. The number of varieties to be handled is decided by the headquarters, and the various units are notified accordingly. In some cases the understanding may be that the units may handle any varieties up to, say, 20 or 30 items, in which case the manager of the chain unit uses discretion as to the varieties to be carried. In other cases the list specifies particular products, and the manager discriminates only within the limits of the list in question. The varieties handled, therefore, may show considerable differences from one unit to another of the same chain. Since some varieties are more adapted to certain localities than are others, the decision as to the exact varieties may, therefore, be left to the store manager, subject to the fact that he cannot carry more or different varieties than those contained in the headquarters list, nor discontinue handling the products of one biscuit company and commence handling those of a competing company.

Largely because of the foregoing conditions, it appears that salesmen for the various biscuit companies do less work on the whole in the average chain-store unit than in the average individual retail establishment. In the chain units display racks are generally taken care of by the clerks. The salesman, as a rule, goes in and looks over the rack to see what the store is short of, makes a list of the goods needed, and presents it to the store manager for his approval.

[33] Bixler, Hudgins, Menefee, Doc. 836, *op. cit.*, pp. 194, 367, 612, Main, Gottlock, Weissberger, McCue, Riggle, Doc. 837, *op. cit.*, pp. 84-85, 529, 545, 634, 635, 715-716.

The manager, who is working under instructions from headquarters, already has the sales plan and instructions as to what to buy as specials. It is apparently not necessary, as a rule, to do as much cleaning up of stock in the chain units as in individual establishments, and the salesmen seldom touch the display racks. In the larger retail stores, however, the salesman also appears to spend a great deal less time than in the smaller ones. In fact, in some of the largest stores the salesman may do little, if anything, more than in the average chain unit.[34]

The National Biscuit Company maintains a special chain-store department in charge of a manager and one assistant at New York. This department supervises to a great extent the entire chain-store business of the National. The manager calls upon all the chains in the Metropolitan Division and also travels over the country, visiting from time to time the head offices of all of the other chains. In every large city the National has a salesman whose function it is to look after the chain-store sales, either directly or through some one delegated by him.[35]

Special Salesmen and Sales Training

Both the National and Loose-Wiles companies maintain a force of special salesmen or special representatives. In 1925 the National had a staff of 91 of such salesmen, 30 of whom were attached to headquarters and the remainder to the various local agencies. The National force busies itself "all over the country, sizing up conditions and making reports regarding them, helping district salesmen when they need help, and gathering and disseminating new ideas for use in selling."[36] In the Loose-Wiles Company the duties of these special salesmen include various kinds of special work for the house, such as developing salesmen and territories, breaking in new salesmen to their duties of calling on the trade, showing them their routes, selling in place of salesmen when they are off, and working with the salesmen at various times.[37]

Salesmen for the National Biscuit Company are selected by the various branch managers. When a branch manager has a vacancy, he selects from his file of applications the man whom he considers will fit in the particular district. This man is put through a four weeks' course of training. Part of this is spent on inside work studying prices and goods. The prospective salesman then accompanies several of the more experienced members of the sales force, who teach him how to approach customers, how to dress the cracker department, how to put up advertising material, and how to hold demonstrations. After this four weeks' course is completed, the salesman is then assigned to a district. The work of instruction, however, does not end there. At frequent intervals the sales agent and the special salesman accompany him and go over each feature of his work, showing him where he can improve, and teaching him to become a better salesman.[38]

[34] Appendix to brief of Loose-Wiles Biscuit Co., Doc. 837, p. 36, Petition to Review, *National Biscuit Co.* v. *Federal Trade Commission,* United States Circuit Court of Appeals, 2nd Circuit, pp. 36-37, Allen, Fisher, Gottlock, Weissberger, Becker, Riggle, Doc. 837, pp. 497, 511, 529-30, 546, 648-50, Bixler, Doc. 836, p. 199.

[35] Bixler; Laity, Doc. 836, pp. 198, 241-242.

[36] *The N. B. C.,* October, 1925, p. 5.

[37] Robinson, Allen, Fisher, Doc. 837, pp. 475, 494, 509.

[38] Hawes, Doc. 836, pp. 2178-9.

Quantity Discounts

In the 1880's quantity discounts in the biscuit and cracker business were based upon single sales, and these discounts varied. In New York in the case of one company,[39] for example, the quantity discount was 5% on 10 boxes purchased at one time, one delivery, and 10% on 25 boxes. In upper New England it was 5% on 5 barrels and 10% on 15 barrels. There also were different cracker associations, and these obtained different quantity discounts. Again, there was a special price list applying to special customers who got certain specified discounts off the face of the bill, regardless of quantity purchased. "Then they had a peddlers' list that got 20% discount. Then there was a jobbers' list that got 15%. Then there was a semi-jobbers' list that got 25%." There was also a company stores list, a bakers' list, and various other lists.

When the National Biscuit Company was organized in 1898, those conditions were discussed, and a policy of discounts adopted which was based upon the quantity of goods purchased during a 3 months' period. With certain exceptions the scale of discounts employed was 5% "on purchases of $50 in the period of 3 months, and 10% on purchases of $150 within any 3 months, and 15% on purchases of $1,500 in that period, $500 a month." In Chicago, Philadelphia, New York, Boston, and Washington the discounts were not quite so liberal. In these cities the scale was only 2½% on $50, 5% on $100, 7½% on $150, and 10% on $200. There were also certain other variations in the quantities and rates, but the principle of accumulated purchases as the basis for discount was preserved throughout. A few years later, probably about 1903, the discount period was changed from a three months' to a one-month basis.[40] This monthly basis has been retained by the National Biscuit Company down to the present day, and its present system of discounts is 5% on purchases aggregating $15 or more during the month, 10% on purchases aggregating $50 or more, and 15% on purchases aggregating $200 or more. For discount purposes all the units of a chain store are treated as one.

It has been suggested that the chaotic conditions prevailing with reference to quantity discounts were responsible for the introduction of the cumulative discount system.[41] It seems obvious, however, that any such conditions could have been remedied equally well by making universally applicable a scale of quantity discounts based not upon accumulated purchases but upon single sales. In other words, the cumulative feature can hardly be said to have been material to the elimination of the numerous and widely varying discounts described above. The real reason, apparently, for the employment of the cumulative feature, therefore, was not to procure uniformity of quantity discounts but to get goods to the consumer in a fresher and more palatable condition. In order to get the discount under the earlier system, many dealers, it is claimed, would purchase more goods at one time than they could sell within a reasonable period. Salesmen, moreover, endeavored to sell the dealer all the goods they possibly could, and hence to persuade the dealer to purchase enough to earn the quantity discount. As a result, the biscuits or crackers frequently became stale and

[39] Vanderveer-Holmes Biscuit Company.
[40] Bliss, Doc. 31, pp. 990-4, 1000-4.
[41] Bliss, Doc. 31, pp. 999 ff.

came into the hands of the consumer in that condition. This naturally reacted to the disadvantage of the manufacturer. In order to get away from these conditions, it is claimed, the cumulative system was devised. This gave the retailer the opportunity of buying biscuits when and as he needed them, frequently and in small quantities, and thus kept the consumer always supplied with fresh goods.[42]

In September, 1921, 3,210 of the National's customers, or 1.29%, purchased $200 worth or more biscuits and crackers monthly, and qualified for the 15% discount. These customers, however, represented 33.68% of the company's total sales. In the class of purchasers buying from $50 to $200 worth of goods per month and entitled to 10% discount were 33,192 customers, representing 13.36% of the customers and 29.31% of the company's business. In the class buying from $15 to $50 worth of goods monthly were 85,951 customers, representing 34.54% of customers and 26.47% of total business. In the class buying less than $15 worth of goods per month were 126,134 customers, representing 50.76% of customers and 10.54% of sales.[43]

From 1917 to 1921 customers receiving 15%, however, increased 1,533, or 91%; those receiving 10%, 11,243, or 51%; and those receiving 5%, 26,376, or 44%. Customers obtaining no discounts, on the other hand, decreased 17,460, or 12%.

Most of the other companies also employ a system of discounts based on monthly purchases except that, as already indicated, some of the companies employ a special jobbers' discount. These systems, however, show considerable variation from that of the National, both as to percentages allowed and the quantities required for qualification.

[42] "That plan [single sale quantity discount] developed a condition that many dealers, in order to get the maximum discount of 10%, would buy more for one-time shipment than they could dispose of and distribute within a reasonable period." As a result, stale and unseasonable goods frequently accumulated, which, falling into the hands of consumers, reacted to the disadvantage of the company and affected its prestige. "In order to get away from the shipments in such large quantities at one time, this quantity discount plan was evolved, and put into effect, and our desire is to make it possible for the retail dealers to buy biscuits, which are perishable, frequently and in moderate quantities, to the end that the consuming trade may always be supplied with fresh goods." Wiles, Record, *op. cit.*, Doc. 837, pp. 325-6; cf. also Bliss, Doc. 31, pp. 996-9.

[43] Bixler, Doc. 836, *op. cit.*, pp. 206-7.

PROVISIONS OF INDUSTRIAL PREFERRED STOCKS

By SAMUEL W. ANDERSON

THE concept of the investment of money in a business enterprise on the basis of a definitely limited prior claim against the assets and earnings of the business is very old. Though the fundamental idea is simple enough, the varied fine distinctions in the requirements of present-day investors makes it worth while to inquire into the additional provisions which often surround modern preferred stocks. These additional provisions are the result of the judgment of investment bankers concerning the legitimate requirements of the investing public and have been imposed on the corporations desiring to sell issues of preferred stocks to the public. The provisions vary as widely as the judgment of the issuing bankers. Some are worthy of preservation; some are unsound. Nearly all are the product of the evolution of financial practice and the refinements in the requirements of the investment bankers and issuing companies. We shall discuss in this paper some of the generally accepted restrictive provisions used in connection with the creation of industrial preferred stocks, after consideration of industrial preferred stocks and their protective provisions.

I

The value of the fixed tangible property of an industrial enterprise is almost entirely dependent upon the earning power of that property in a commercial world of open competition. If the property cannot make an average profit on its cost, it is not worth its cost because no one will pay that much for it. It is an open secret that when a company has been unsuccessful in its operation and decides to liquidate its remaining fixed assets, they have to be sold for nearly junk value for want of a buyer who will use them in a similar business. In short, industrial balance-sheet values are earnings values and can quite readily decline to "junk prices" if earnings cannot be made by their use.

The assets of railroads and public utilities, on the other hand, have a tangible value within certain relatively narrow limits because, supplying to the public as they do an essential service on a more or less monopolistic basis, the courts have definitely established that it is good policy to require the public to pay a certain reasonable charge for enjoying these services. The element of devastating competition is absent in these cases. Aside from poor management, therefore, there is nothing except a possible revolutionary change in public taste and habits, which can destroy the earnings of these classes of properties. In consequence, their actual tangible values are not subject to sudden and serious depreciation.

With this fundamental distinction between industrial and non-industrial values in mind, it is evident that, other things being equal, a preferred stock is a more appropriate senior security

for an industrial enterprise than a bond, for the reason that the value of a preferred stock is based upon a dividend return payable out of earnings and the return of the par value (usually plus a premium) only by means of a sinking fund set up out of earnings over a period of time. It does not promise the repayment of a specified principal amount of money on a definite date in the future as does a bond. In short, from the standpoint of the investor, an investment in a preferred stock of a company constitutes the placing of money in a business in the expectation first, that it will earn and pay a reasonable return and, secondly, that it will be repaid out of earnings realized by its use; while the placing of money in a business by the purchase of its bonds emphasizes more the expectation that the money value so invested will remain in the business and will be returned to the bondholder at maturity.

It is clear that the preferred stockholder assumes real risks of loss if the business suffers from a prolonged period of depression; and he does not have the lure of substantial profits if the business is unusually successful. All such profits accrue to the common stockholder.

It has been in an effort to protect the preferred stockholder from these business risks that investment bankers have endeavored, in the development of the theory of investment preferred stocks, to surround the preferred stockholder with the protection to which he is legitimately entitled in return for his forgoing a larger though more speculative share of the profits of the business, if successful. In setting up these protective features, however, it has always been necessary to avoid hampering the freedom of action of the corporation to an undue degree, or else the interests of the preferred stockholders themselves will be endangered, for it must be constantly kept in mind that what is good for the corporation in a broad way is, in the end, good for the preferred stockholder also. The growing consciousness of a "community of interest" between all of the security holders of a single corporation (whether they be bondholders or stockholders) is one of the significant developments within the last twenty years. This very fact is one of the chief reasons why the use of preferred stock financing, rather than the sale of bonds, is more appropriate for industrial companies, because, by the nature of the case, the earnings of industrial companies tend to fluctuate quite widely with the periodic changes in the condition of business as a whole. There will be times in the life of nearly every industrial concern when its earnings will fall off or disappear and when, as a result, it is sounder policy in many cases to conserve every possible reserve of cash until better times shall have returned. Such a company can, if it is wise to do so, pass its preferred dividend and thereby stop a serious drain upon its resources in a critical time.

But business will continue to be fraught with unavoidable risks and losses, and men will continue to make mistakes in judgment. It may be said that the protective features which are thrown up around the bondholder and the preferred stockholder by the issuing investment banker are aimed to protect the investor from the business risks inherent in any enterprise and from the presence of human nature in business. It is necessary, in other words, to give the preferred stockholders an opportunity to check or reverse the decisions of the management in

such matters as vitally affect their interest.

II

One of the most customary protective provisions of modern industrial preferred stocks is that calling for an annual sinking fund to retire the issue over a period of years. This clause is often worded as follows:

> In each year beginning with 1927 the corporation shall, out of its surplus or net profits remaining after payment of full dividends on the preferred stock, acquire by redemption or by purchase (at not to exceed $115 per share plus unpaid accrued dividends) an amount of preferred stock equal to at least 3% of the largest amount in par value of preferred stock which shall have been at any one time outstanding.

It will be noticed in the above quotation that the corporation is prohibited from paying more than a stated price for the stock in the open market (in this case $115 per share). This figure is customarily made the same as the price at which the issue may be redeemed or paid off by the corporation. The reason for placing this limitation on the price which the company may pay for preferred stock purchased for sinking fund (and also the reason why the company is permitted to redeem by lot less than the entire outstanding issue of preferred stock) is the fact that after the lapse of a number of years the operation of the 3% annual sinking fund as a buying power in the open market will have absorbed almost all of the floating supply of the preferred stock. As a result, the company will find that it is able to buy up its annual sinking fund requirement of stock only at increasingly higher prices, because during the early life of the issue it has bought back the holdings of those stockholders who are most inclined to sell as the price rises, leaving an increasingly larger proportion of stockholders who cannot be tempted to sell even at a good profit, because they have bought the preferred stock as an investment and their circumstances or investment habits do not require liquidation of any of their holdings. For example, consider the situation after the first ten years of the life of a supposed issue of $10,000,000 of 7% cumulative preferred stock, callable at 115 and carrying a 3% annual sinking fund. If the company grows in prosperity, the proportion of "strong stockholders" who buy purely for investment will increase constantly, because every time a "strong stockholder" makes a purchase in the open market he withdraws the stocks from the market and consigns it to his strongbox, where it will remain unless there develops some reason for him to become dissatisfied with its intrinsic worth. At the end of the 10-year period, therefore, there will be only relatively few stockholders who will be willing to sell their stock even at a good profit. The company has already retired, furthermore, 30% of the original issue by the operation of the 3% annual sinking fund, so that the annual sinking-fund requirement of $300,000 par value of stock represents not 3% of the then outstanding amount, but 4.28%, or $300,000 out of $7,000,000. Thus the company may discover that even by purchasing all of the preferred stock which is offered in the open market at $115 per share or less, it will be unable to buy in this manner all of the $300,000 which it needs for its sinking-fund requirement. The company, in this circumstance, is permitted and required to call the remaining amount of stock which it requires for its sinking fund for that year, at the call price ($115 per share in our supposed case).

It would seem from the above discus-

sion that the purpose of the banker in inserting the sinking-fund provisions among the preferred stock restrictions is the creation of a market buying power which can never be a future selling power and which, therefore, acts in a salutary manner on the market price of the preferred stock. While it is unquestionably true that purchases for account of the company's sinking fund do act in this matter on the market price of the stock, such is not the fundamental theory behind the use of the sinking-fund provision in preferred stocks. There are two more significant reasons for the sinking-fund provision: In the first place, as emphasized above, the value of preferred stocks is based upon earnings and depends for its market value largely on the maintenance of earnings. It is logical, therefore, that the capital invested in a business by the sale of preferred stock should be repaid only out of earnings rather than out of the original capital invested through the medium of preferred stock. This is most readily and profitably accomplished by retiring each year a small amount of the preferred stock rather than by accumulating earnings in liquid form for the purpose of retiring all or a large part of the issue at one fell swoop. In the second place, the sinking fund is used in order to compel the retirement of the entire issue of preferred stock within about thirty years. Here again we may trace the underlying cause of this restriction to the efforts of the investment banker to protect the investor from the indeterminate future business risks and the vagaries and uncertainties of the human element in business—management—this time, future management. The underwriting banker may have unbounded faith in the present management and the economic position of the company, the preferred stock of which he is about to offer to the public (he does have such confidence or he would not offer the stock), but he has no way of judging what the quality of the next generation of managers will be or what serious changes in the company's position will develop. He cannot ask his investment following which, it must be remembered, comprises not only those who buy the stock in the first instance from him but also all those future holders who will buy it in the market and who will hold it for however long it shall be outstanding, to place their money forever at the disposal of a set of men the future ability and honesty of whom is unavoidably indeterminate, and who in the future may be competing with others under entirely different circumstances. The sinking fund provides a convenient method of retiring a preferred stock issue over the period of the responsible business life of about one generation of managers and as such is of incalculable benefit to the preferred stockholders of a company as a class. It reduces the risks of the investor from a serious decline in managerial ability when the present generation of managers has passed, and safeguards the preferred stockholders from the slow changes in economic conditions.

It is clear, then, that the sinking-fund provision is an unusually valuable safeguard for the preferred stockholder as well as a continuously beneficial buying power in the market. Its principal excuse for existence, however, as pointed out above, is to "bail the preferred stockholders out," from earnings, while the present management, and those chosen by them as successors during their lives, are in charge of the company's affairs and while the present economic status of the particular company obtains.

In the course of time, however, a sinking fund may create a situation which is not an unmixed benefit from the standpoint both of the company and the preferred stockholder. We have shown how, after a period of years, it will usually be impossible for a company to purchase in the market all of the preferred stock which it requires for its annual sinking fund, because the sinking fund represents an increasingly larger percentage of the amount outstanding at the end of each year, and because the stock is gradually working into the hands of stronger and stronger holders who prefer not to sell even at the call price. The company itself, furthermore, may have embarked upon a program of expansion in which it requires all the available cash it can spare from its current operations. It may, therefore, find the sinking fund an irksome requirement. Thus we have a situation in which a successful company does not want to expend money retiring its preferred stock every year, and the holders of the stock do not wish to give up their stock, being satisfied with its quality and prospects. Yet even under these conditions the company is compelled to call for redemption a certain amount of stock each year, under the terms of a typical sinking-fund clause such as the one quoted above.

An interesting step in the direction of the solution to this problem is found in a recently authorized preferred stock issue, that of The Great Atlantic and Pacific Tea Company.[1]

This clause operates in such a way that if there are preferred stockholders who wish to sell, then the company must buy; but if the preferred stockholders are satisfied to keep their stock, then the company is not compelled to take it away from them. It may, of course, do so by calling all or part of the issue, if such a course represents a sound financial policy from its own standpoint.

It is probable that there will be further instances of this type of sinking

[1] It reads as follows:

"On or before the first day of June, 1927, and annually on or before the first day of June in each year thereafter (until all of the First Preferred Stock shall have been retired), the Corporation, from and out of its surplus or net profits remaining after the full dividends on the First Preferred Stock for all past quarter-yearly dividend periods shall have been paid, shall acquire by purchase its First Preferred Stock for retirement up to an amount thereof in par value equal to at least four per cent (4%) of the largest amount in par value of such First Preferred Stock which shall have been at any one time issued and outstanding, provided and to the extent that the same can be purchased at not exceeding One hundred and five dollars ($105) per share in the manner hereinafter specified, to wit: During any such year in which prior to May 1 there shall have been tendered in writing for sale to the Corporation, or in which prior to May 1 it shall have purchased, at least Five hundred (500) shares of such stock at not more than One hundred and five dollars ($105) per share, the Corporation shall give not less than two weeks' notice by mail to the holders of record of the First Preferred Stock (or shall publish such notice at least once a week for two successive weeks in two newspapers of general circulation in the City of New York) inviting tenders to it of First Preferred Stock, to the amount required to make up such 4% for such year, at not more than One hundred and five dollars ($105) per share; and the Corporation shall purchase and retire so much of the First Preferred Stock so tendered at not more than One hundred and five dollars ($105) per share as shall be required by the Corporation to enable it to retire in such year at least 4% of the largest amount in par value of the First Preferred Stock which shall have been at any one time issued and outstanding; if more stock is so tendered than shall be so required, the Corporation shall purchase stock so tendered at the lowest price asked therefor, and if tenders at the same price exceed the amount required, the tenders shall be accepted pro rata as closely as may be without creating fractions. If less stock is so tendered than shall be required to enable the Corporation to retire such 4% in such year, the Corporation shall be relieved from acquiring and retiring in that year any First Preferred Stock in excess of the amount tendered."

funds for preferred stocks. In harmony with the general theory that the interests of the preferred stockholders and the corporation are identical, there will be a gradual development of the sinking-fund provision to a state where it most effectively protects the stockholder and at the same time leaves the corporation unhampered in its activities.

III

No dividends shall be declared or paid on the common stock unless the surplus thereafter remaining on hand is not less than three years' dividend requirements on the outstanding preferred stock.

The necessity for creating this provision is evident when it is remembered that numerous issues of preferred stock are created by newly organized companies to succeed to the businesses of already existing corporations. This practice is quite regularly followed by investment bankers because it is easier to organize a new corporation and to surround the newly authorized stock issues with restrictive provisions than it is to attempt to amend the charter of the old corporation. The newly created corporation usually, therefore, capitalizes its entire net worth with the exception of a certain specified surplus amount, which is set aside to fulfill the requirement of such a provision as that quoted above. For example, let us assume that the A. B. Company is organized to succeed to the business of A. B. Inc. and that the A. B. Company is about to market an issue of $10,000,000 principal amount of 7% cumulative preferred stock. If the provision quoted above is to apply in this case, it will mean that the A. B. Company must set aside from its net worth, as initial surplus, the sum of $2,100,000. It is then in a position to declare dividends on its common stock from any subsequent earnings beyond this amount; but should the A. B. Company suffer a serious loss during its first or second year of existence, and its surplus, therefore, should be reduced below $2,100,000, it must suspend dividends on its common stock (if it has been paying them) until it has accumulated sufficient surplus earnings to reestablish the surplus account at $2,100,000.

The reason for the insertion of this provision as a restriction surrounding the preferred stock of a company is the desire of the investment banker to transfer the primary risk of the business to the shoulders of the common stockholder and to insure the preferred stockholder a continuity of dividend even in the face of the periodic adverse business conditions which nearly every corporation normally meets. It is not likely that a well-organized company, operating over a period of years, would meet a period of more than three years' duration in which it would realize no profit. At least, if the company should suffer a serious loss during one year, it is likely to recapture its position during the next two years.

An interesting exception to this rule may be found among a number of large corporations during the serious depression of 1920-21. One instance will serve to bring out the point. In 1920, Sears, Roebuck & Company capitalized $30,000,000 of its then existing surplus, amounting to $37,564,374, by a declaration of a 40% stock dividend. At the end of that year, this left the company with a surplus of $7,564,374. The following year, the company suffered a serious loss, amounting to $19,094,127, which entirely wiped out its then existing surplus and, of course, would have prevented the payment of dividends on its outstanding preferred

stock. This clearly would have been an injustice to the preferred stockholders, because the surplus which had been recently capitalized for the benefit of the common stockholders had previously served as a protection for the preferred stockholders. Realizing this, the largest common stockholder, Mr. Julius Rosenwald, made a gift to the corporation of $5,000,000 par value of common stock and purchased from the company for $16,000,000 real estate which stood on the company's books at $7,724,630. Both the profit on this real estate (amounting to $8,275,370) and the $5,000,000 of par value of common stock donated by Mr. Rosenwald were credited to surplus, creating a credit balance on December 31, 1921, of $1,745,607, after paying 7% on the preferred stock.

IV

The issuing banker usually wishes to preserve for the preferred stockholder the same relative position in the capital structure as he enjoys at the outset. This is accomplished by some such provision as the following:

> The consent of at least two-thirds in interest of the outstanding preferred stock of the corporation shall be necessary for effecting or validating the creation of a mortgage on any of the property of the corporation or of any subsidiary company; but this restriction is not applicable to the giving of purchase money mortgages or to the acquisition of property subject to liens or encumbrances, or to the renewal or refunding of such mortgages, or to the pledging of securities or liquid assets to secure loans made in the regular conduct of the business.

This provision is a very important one, from the standpoint of the issuing banker and his client, the preferred stockholder. It is, in fact, more than any other, essential to the creation of a first-class preferred stock. It places the preferred stockholders in a position in which they have a prior claim upon the assets of the business after the current creditors have been satisfied, and very definitely provides that this claim cannot be taken away from them without their consent. Because of the fact that industrial values are so essentially earnings values and depend for their value upon the actuality of earnings, it is very necessary to protect the claim of a first-class preferred stock to these assets from any dilution caused by the injection of prior claims against the assets, because, if it is so preceded by a funded debt of any substantial proportion, it becomes an equity security in respect to its liquidating value and thereby is laid open to serious depreciation in the event that it is necessary to wind up the business of the company and to dispose of its assets.

On the other hand, the very fact that there is a possibility of placing a prior lien upon the assets of the business senior to the claim of the preferred stock is one of the strongest points in favor of preferred stock financing. This fact is receiving increasing recognition with the development of the theory of community of interest amongst the security holders of any one corporation. In other words, it may be regarded as an advantage, even to the preferred stockholder, that, with his consent, it is possible to place ahead of him an obligation for the benefit of his company at some time when it might be in dire need of financing. This is true despite the fact that the preferred stockholder would then find himself in a secondary position; but is quite possible that his assumption of such a secondary position would have furnished the means of carrying the com-

pany through an otherwise disastrous period.

Many examples of this situation may be mentioned. An interesting one is that of the B. F. Goodrich Company, which, in 1920, had outstanding $39,600,000 of 7% cumulative preferred stock, containing a provision similar to the one quoted above. During that year and the subsequent year, the company suffered an enormous loss, caused by a serious decline in the rubber market and by the general depression in business. Its preferred dividends were threatened, its common dividends were passed. It was only because the company owned a large amount of unencumbered assets that it was able to sell an issue of $30,000,000 of 7% convertible notes and thereby weather the storm. If its issue of preferred stock, on the other hand, had been an issue of first-mortgage bonds, it is doubtful whether it could have pulled through the depression without a receivership, with all the usual losses in values to the security holders. The presence of the requirement for a two-thirds consent of the preferred stock for the creation of any mortgage debt, however, is a sound one, because it prevents the company from using this loophole for trivial purposes or for expansion, the success of which may be problematical, even though promising.

In short, this provision merely gives form to the fact, which every preferred stockholder recognizes, that so long as the company remains prosperous he is entitled to the primary position in its capital structure, but that, if necessity requires, he must consider whether or not he is willing to subordinate his position in order to save the company, and consequently himself. This provision thus plays an extremely useful part in the financial structure of a well-managed company and should be regarded by investors as a benefit, both in prosperity and in adversity.

V

A provision somewhat similar to that just discussed is the clause prohibiting the increase in the amount of preferred stock:

> The consent of at least two-thirds in interest of the outstanding preferred stock of the corporation shall be necessary for effecting or validating any increase in the authorized amount of the preferred stock or the creation of any stock, or security convertible into such stock, having any preference or priority superior to or on an equality with any preference or priority of the preferred stock.

By means of this provision, the preferred stockholder has further assurance that his position in the company will not be changed without his consent. In the first instance, he occupies the primary position in that he has the first claim on the company's assets and the first claim on the company's earnings for his dividend. If additional amounts of preferred stock could be issued at any time, this claim might be diluted, both in respect to the assets of the company and in respect to its earnings.

This provision is somewhat similar to the so-called "closed mortgage," which prevents a company from issuing more of its first-mortgage bonds against its property even though it acquires additional property subsequent to the original sale of the bonds.

The presence of this provision prohibiting an increase in the authorized amount of preferred stock is a fundamentally sound one, because an investor buys a preferred stock of a company based upon certain representations and facts respecting the relationship between the principal amount of preferred stock outstanding and the assets

of the company, and respecting the relationship between the dividend requirement on the total amount of preferred stock and the earnings of the company. These relationships may, of course, change by one of two ways: in the first place, the company's assets may decline or rise in value, and its earnings may diminish or increase. The possibility of such changes is inherent in the business of most companies, and cannot be avoided. They are inevitably considered by every investor when he purchases a security. In the second place, these important relationships may, of course, also change by a change in the total amount of preferred stock and a corresponding change in the total dividend requirement; but this change is entirely within the power of the certificate of incorporation of the company to control, and it is in an effort so to control it that the provision quoted above is inserted.

Because the relationship between the dividend requirement on the preferred stock outstanding and the earnings of the company is the most important factor in the investment standing of a preferred stock, this control of one side of the equation is a most vital one to the investor. The presence of such a clause as that quoted above assures the investor that in any event the amount of dividend which the company must pay will not be increased without his consent and that his only danger, therefore, lies on the other side of the equation—namely, a decline in the earnings of the company.

On the other hand, of course, it is sound to allow a loophole so that, if the company's earnings and net worth grow very large, it may be possible to increase the amount of preferred stock in order to finance useful expansion, still maintaining, however, a safe relationship between the enlarged earnings of the company and the dividend requirement on the new and larger amount of preferred stock proposed to be issued.

VI

It is quite usual for a company authorizing a new issue of preferred stock to insert, at the behest of the investment banker, the following provision in the certificate of incorporation:

> The consent of at least two-thirds in interest of the outstanding preferred stock of the corporation shall be necessary for effecting or validating any amendment, alteration, or repeal of any of the provisions of the certificate of incorporation which have reference to preferred stock; or the sale or conveyance of all or a substantial part of the property and business of the corporation, or a merger or consolidation of the corporation with any other corporation; or the sale or conveyance of the stock or property of a subsidiary or a merger or consolidation of a subsidiary corporation (other than to or with the corporation itself, or another subsidiary company).

In the previous paragraph on the reasons for including in a company's charter a clause prohibiting the company from issuing additional preferred stock beyond that amount initially authorized without the consent of a certain proportion of the then existing stockholders, it was pointed out that when the preferred stockholder invests his money in a company he is entitled to the assurance that his position will not be tampered with unless his consent is forthcoming. The first part of the above quotation is a general clause calculated to surround the preferred stockholder with this variety of protection with respect to the many details affecting the value of his preferred stock. He is presumed to have invested his money in the company after thoroughly weighing the importance of the numer-

ous restrictions surrounding the preferred stock, and he has reached a decision that these provisions assure him the protection which he desires for his money, and that his risk is reduced, as well as may be, to that change which is inherent in all business, namely, the possibility of a decline or disappearance of the margin of profit in the sale of the company's commodities or services. This last risk, of course, he cannot avoid, and part of the return which he receives on the money invested represents his compensation for his assuming these unavoidable risks.

The preferred stockholder, therefore, very justly demands, and should be entitled to receive, every assurance that the artificially created protection which he receives by reason of the insertion of protective provisions surrounding his preferred stock shall not be altered without good reason and without his consent, for no one is as able to judge where his interest lies as the preferred stockholder himself.

The second part of the above quotation, referring to the sale of all or a substantial part of the property and business of the company or the merger or consolidation of the company with another company, prevents the corporation from "sliding out from under" its obligation to the preferred stockholder. Here, once more, we find the investment banker protecting the preferred stockholder from the possibility of unscrupulous management. An unscrupulous management might possibly sell all the assets of a business to another corporation, whose charter did not prevent it from issuing bonds and preferred stock, accepting as consideration for such a sale an issue of common stock of the other company, which would be a junior in every respect to several other issues. This would place the preferred stockholder of the old company in the uncomfortable position of finding his chief claim for dividends dependent upon the earnings and dividends on a junior issue of stock of another corporation.

This part of the provision quoted above is also aimed at the preservation of the *status quo* of the preferred stockholder, and at the prevention of any weakening of his position without his consent.

VII

The circumstances under which the preferred stock may vote is often worded as follows:

> The preferred stock shall have no voting power unless default exists in the payment of four quarterly dividends, in which event, until the default is cured, the entire voting power shall vest exclusively in the preferred stock.

This is a very important provision because the most fundamental danger in investing money in any form of corporation securities is the danger of inefficient, ill-advised, or immature management.

Consider a possible case. A corporation may be under guidance of an efficient, capable, and honest president. Its business may be fundamentally sound and economic. It may be growing at a healthy rate and making more than average profits. Suddenly the president dies. He is succeeded perhaps by a son, perhaps by a junior executive, whose vision is limited, whose experience is confined to only one branch of the business, or whose personality is a handicap. Unless the corporation has followed a conscious policy to take care of these contingencies, such will be the case more often than not, for a strong, powerful leader oftentimes does not develop similar understudies.

The reins of the company's business are now taken up by men whose judgment wavers and who may make serious and costly mistakes in the competitive business world. The company may suffer serious losses, and its business may begin to disintegrate.

The position of the preferred stockholders, in such a case, is not an enviable one. They have placed their money under the management of a capable man who has suddenly disappeared from the picture. They find their fortunes at the mercy of amateurs and business light-weights. Usually they or their representative, the investment banker, quickly recognize the situation. But nothing can be done. The common stock is all held by a few "insiders." They have complete power to run the company in any way they see fit.

If the situation continues, however, a time will come when the earnings of the company are so scanty that the dividends on the preferred stock must be omitted. When this default has continued for a specified length of time, the preferred stockholders are in a position to take the voting power of the company away from the common stockholders, if a provision similar to that quoted above was written into the certificate of incorporation.

If the preferred stockholders or their representative, the investment banker, are convinced that the bad times into which the company has fallen are the result of inefficient management, they can immediately call a meeting, oust the old board of directors and officers, select a new board of directors and set of officers, and proceed (as nearly as may be) to rectify the mistakes made by the previous management. Thus they may succeed in saving their investment from total loss at the hands of an inefficient management, and may also reestablish the company's business on a sound basis and start it once more toward its goal of success. Oftentimes, under these circumstances, the previous management (representing the common stock) will recognize that the change which they may have bitterly opposed was for their own best interest as well as for that of the preferred stockholders; and by the success which the preferred stockholders attain in their operation of the company the common stockholders may determine that the management selected to succeed them is, after all, the best to continue the operation of the company, even if the default in preferred dividends has been made good.

On the other hand, another set of circumstances may entirely change the aspect of the whole problem. A company, instead of being steered into adversity by an unintelligent management, may fall upon evil times, despite the best efforts and soundest judgment of its officers and entirely because of conditions in its industry completely beyond the control of its management. A striking example of this sort of situation is that of the leather industry since the year 1920. In this industry the strongest and best managed companies have found it practically impossible to show profits for a period of nearly five years. This has been due, not to mistakes in judgment on the part of individual men in the industry, but to fundamental economic conditions.

The preferred stockholders of a leather company, the charter of which contained a provision similar to the one quoted, would, therefore, be faced with a problem of trying to manage profitably a company which had been unsuccessful in the hands of perhaps some of the best leather merchants in the business.

The obvious answer would be that if these trained men, concerning whose judgment there was little question, could not make money under difficult conditions, any management selected by the preferred stockholders could do no better. Under these circumstances, even though preferred dividends may have been in default for a considerable time, the common stockholders usually continue to manage the business.

There is no doubt, furthermore, that the mere existence of the power of the preferred stockholders to take the vote away from the common stock acts in a salutary way upon the common stockholders. They are disposed to conduct the business in a more conservative manner, take less risk, and reef more sail in the face of a storm. And the effect will be felt whether the dividends remain unpaid for the requisite length of time and the common stock still maintains the management as outlined above, or whether there is merely the danger that the dividends cannot be paid in the future.

There are many examples among corporations of the possession of voting power by the preferred stock as well as the common stock, one vote for each share, regardless of class. If, in such cases, there are outstanding a larger number of shares of preferred stock than common stock, the preferred stock is, of course, in a position to control the company if it desires, except that it is an extremely difficult and expensive task to secure the proxies of a widely distributed issue of stock. If, on the other hand, the outstanding common shares exceed in number the preferred shares, the preferred stockholder is placed in the position where he can never have an effective voice in the management as against the common stockholder. It is far better from the standpoint of the preferred stock, therefore, that it have no vote at all when its dividends are being paid, but the exclusive vote if dividends are defaulted, than it is for the preferred stock to have equal voting rights with the common stock, regardless of whether or not preferred dividends are being paid.

VIII

In judging the investment position of an industrial preferred stock, the foremost consideration should always be the relation of the company's normal earning power to the dividend requirement on the preferred stock, because industrial investment values are necessarily earnings values. An indication of the future stability of the earnings is to be had from the tangible assets of the company; it is useful, therefore, to consider also the relation of these assets to the total amount of preferred stock outstanding, but it should always be kept in mind that the real value of these assets depends largely on the continuation of adequate earnings. The protective provisions are important in fortifying the earnings values. They have to do with specific eventualities which may occur in any business with startling suddenness and they are aimed at the most dangerous of business risks—ill-advised, inefficient, or unscrupulous management. No matter how large a company's earnings and assets may be in relation to its preferred stock, that stock is an unsatisfactory investment risk if it be not surrounded with provisions calculated to protect the investor from preventable risks.

As the representative of the investing public, the investment banker should insist that his clients receive the assurance given by the provisions which have been discussed above.

VALUATION OF PLATES AND PUBLISHING RIGHTS

By JAMES DUNCAN PHILLIPS

IT is only in recent years that the publishing of books has become a great industry, and hence it is only recently that the questions involved in this business have grown to importance. The business deals in a curious sort of merchandise. Primarily, it does not sell merchandise but ideas. The external covering of these ideas may attract the eye and please the sense of touch, but after all, few educated people buy books for the bindings or the clear type pages unless they also want what the book conveys to the mind. It follows, therefore, that the book is merchandise only if it conveys something the mind wants; if it does not do that, no matter how good the paper or attractive the binding, it is for most people only waste paper.

Influence of Copyright on Values

Another factor that bears on the value of the book as merchandise to its producer is the copyright. By the laws of all countries that have copyright laws at all, a monopoly of the product of his brain is reserved to the author or artist or composer for a period of time after he has produced the work. This term varies in various countries, but in the United States it is restricted to 28 years, with the privilege of renewal for 28 more under certain conditions, or a total of 56 ordinarily.

This copyright monopoly is a thing of great value to the author, but his problem is, what is he going to do with it, so as to make it yield him some return. Authors are apt to be poor business men and they have, as a rule, neither the ability nor the facilities to place their books before the public in such a way as to secure fair compensation for their work. They therefore visit a publisher familiar with the conditions of sale of such books as they produce and enter into an agreement with him for the publication.

There are many different ways of making this arrangement, but ordinarily the author is impecunious and the publisher has capital enough for his business, so the author assigns his copyright to the publisher subject to a royalty on each copy sold, and the publisher agrees to pay for composition, printing, binding, advertising, selling, and all other expenses—the nature of the transaction being that the publisher shoulders the entire financial risk of placing the book on the market, which he promises to do in a reasonable time.

The bargain is a reasonable one. The book may have cost the author much labor, but it is his work and joy. The pleasure of seeing it printed is a very real reward to any author, especially a youthful one. The book has usually been written in spare time, or at least the author has earned his living in other ways while writing it. What he gets out of it is real gain, be it much or little. On the other hand, for the publisher the successful selling of books is

his daily bread and butter. Before one copy can appear, he has to pay for the composition and electrotyping, which even on a book of moderate size can easily cost $1,000. Then he must print and bind copies enough at least to make a start. He must do some advertising, circulate some free copies, and send out some salesmen before a dollar of his original investment begins to come back. This is all a very real risk, and sometimes the publisher never sees any return for all his work. A few dealers may order copies before publication on the strength of the publisher's announcement, the author's friends may order a straggling few, and then the whole venture flickers out except for the payment to the author on the copies sold.

The Author's Interest

Suppose, however, the contrary is true. People begin to talk about the book. Others hear of it and buy it. The sales mount into tens of thousands or even hundreds of thousands. It takes rank as literature. The author becomes a great man of letters and the work itself part of the great body of English literature. According to the contract, for 28 years, or, if the copyright is renewed, for 56 years, the author or his heirs can demand a royalty for any copy sold, and the publisher or his successors are entitled to all the profit they can make after the author has received his royalty. The two parties are joint owners of a great monopoly. Either can sell his part, but he cannot interfere with the rights of the other. Both are making money out of the arrangement. It is obviously a thing of value to each, but (and here is the great question) what is it worth? The expert accountant, with his thirst for reducing everything to a rule, is ready with an explanation of just how to value, for instance, the author's side of the contract. Suppose the author has had a royalty of $600 a year fairly steadily, and the contract has 40 years to run. With business investments ranging about 6%, it would seem to be worth $10,000, but that is not right because it will be worthless in 40 years. However, a good accountant can easily make a calculation based on the annuity principle to show what the real income is, exclusive of the annual contribution, and therefore what its capitalizable value is, which will be in the vicinity of $7,000. This computation can be easily and accurately made, but there is one small hitch which upsets the whole thing. Who is going to guarantee the continuous sale? Who can tell that it will not be ten or twenty times as great ten years hence or have vanished altogether?

It is true that a copyrighted book is a monopoly, but consider the case of a reference book, because the sale of a good book of reference is apt to be steady. Bartlett's *Familiar Quotations* may have held the field steadily for 20 years at an assured annual sale, but nevertheless there may be at this moment in press the book which will sap its life in the next 5 years. Suppose we consider a great poem like *Evangeline*—surely, a great classic once established will hold its place. Unfortunately, there are fashions of the mind as well as of the body, and while people admire the world's great classics and make their children buy them for school use, they buy the latest novel themselves.

Publisher's Interest in Copyrights

But all this deals with the author's side of the case, which, with all its diffi-

culties, is infinitely simple compared with the complexities of the publisher's side. While the book sells, it is worth something to the author, anyway, and when it stops selling his royalty stops; it is worth nothing, and that is the end of it, or seems to be, though there is still the little hitch that dead books sometimes, though not often, achieve resurrection.

To make the matter simple from the author's point of view, we have dealt simply with a successful book and also with the most simple form of author's contract, namely, that whereby the author receives a straight royalty and the publisher pays all the bills. Moreover, we have disregarded the cumulative value of the author's work, the effect of sales of his work on his career and his reputation, and have reduced the whole matter to simplest terms.

When we try to get at the capitalizable value of the publisher's side of the contract we immediately run into complexities. Let us assume that the book costs $1,000 for composition and electrotyping before the first copy is printed, that the list price is $2, and that the cost of an edition of 2,000 copies, for printing, paper, binding, and royalty is 60 cents a copy. The trade discount to book stores will vary from 30% to 40% perhaps, so that it is impossible to compute exactly what the return for the edition is, but at the rate of 33⅓%, which will cover most sales, perhaps, the receipts would be $2,666.66, without allowing for any press copies given away. This amount, less the manufacturing cost of these 2,000 copies and the royalty on the copies sold, would leave $1,466.66. This might be considered the gross return on the edition; but what proportion of the $1,000 expended for plates should be charged to this edition? To that question no one has ever been able to give a satisfactory answer until the book has ceased entirely to sell and is dead beyond the utmost chance of any resurrection. Then, perhaps, one can safely say what proportion of the plate cost is chargeable to each copy sold, but inasmuch as we are trying to arrive at the gross profit in order to determine the value to the publisher of plates and publishing rights of books which are alive, it does not help much to wait until after they are irrevocably dead before we determine it.

Another factor in the case is that the publisher is not especially interested in "gross profit." It is not gross profit that affects his balance sheet. It is not enough that there is a substantial gross profit over and above the manufacturing costs and royalty of his merchandise. This gross profit must take care of his special expenses which can be allocated to the book, such as circulars and newspaper advertising, and also it must provide its fair share of the general expenses of his business for selling, warehousing, advertising, and administration. If it fails to do this, he is out of pocket on the venture and would better not have made it, and his plates and publishing rights are of no value; but here again enters the difficulty of saying as of what date shall these factors be computed.

Looking at the matter hurriedly, one would jump at the conclusion that if the publisher is steadily losing money, his whole list must be without value; but this may not be the case at all. Half a dozen expensive and very unprofitable ventures annually may carry a rich and profitable property down, while a few successful ones may leaven the whole mass of poor books to such an extent as to make a good profit on the business as a whole.

Copyright and Plate Ownership

In spite of all these complexities, there is evidently a further one to be considered; the value vested in this relation with the author, whatever it may be, has two distinct parts as a capitalizable asset. One is the monopoly of the right to publish, which the author, under his ownership guaranteed by the government, has granted to the publisher, and the other is the electrotype plates which the publisher has made and paid for, with which to print the copies of the book. The right to publish is, in government verbiage, an intangible asset; the plates are a tangible one. The plate is really a piece of machinery or, rather, a detachable part of a piece of machinery. It is an interchangeable portion of a printing press; it is worthless without a press on which to use it, and most modern presses are worthless without plates to use.

But in spite of this division, the tangible plate is inextricably mixed with the intangible right to publish if the work is still in copyright. The owner of the plates cannot use them unless the owner of the right to publish has given his assent, and in many cases, though by no means in all, after a book has passed its first vogue, the owner of the plates can afford to go on printing and still sell at a reasonable profit when no one else could afford to begin anew and make a set of plates.

Variety of Author's Contracts

This mixing of intangible rights with tangible values is further complicated by the nature of the contract which publishers enter into with their authors and the conditions under which they come to make plates. The plate warehouse of a great publishing house will contain plates made under the following conditions and perhaps others, but certainly under as many different groups as these.

1. *Royalty Books.* Books made under a straight royalty contract with the author, whereby the author's sole interest is his royalty on each copy sold, and whereby the right to publish, the plates, and the copies printed are the undoubted right and property of the publisher.

2. *Commission Books.* Books for which all expenses for plates, printing, binding, and advertising are paid by the author, who also pays the publisher a commission to sell, warehouse, and distribute the books.

3. *Half-Profit Books.* Books for which the costs of manufacture and publication are charged to a joint account and all receipts credited to the same account, and author and publisher share the profits in an agreed proportion.

4. *Author's Plate Books.* Books for which the cost of publication has been assumed in part by the author, usually in the form of the author's assuming the cost of plates.

5. *Publisher-Owned Books.* Books for which the publisher has either bought the manuscript outright or has hired the author on a salary to write it, so that he actually owns the whole venture not subject to any claim of the author.

6. *Books Out of Copyright.* Books for which there is no exclusive monopoly and for which the publisher owns the plates.

Of course, there are many variants, due to joint authorship and varying degrees of ownership in the copyright and the tangible property, but they all fall under the above general heads, which are sufficient to illustrate the varying

values of publishing rights and plates to both parties. As a matter of fact, the first, fifth, and sixth groups are by far the largest, and the first group is usually the most profitable to both author and publisher. Therefore, while all the groups should be considered, the first deserves the fullest consideration and the most careful attention.

Valuation of Books Published on a Royalty Basis

The real question is, is it possible to make some rule for the valuation of the publisher's plates of author's royalty books? Inasmuch as the publisher cannot use the plates during the term of the copyright unless he has the publishing right assigned to him by the author, it seems as if the two could only be considered together, and that the real definition of the thing of value which we are trying to appraise was "electrotype plates including the right to publish." It should be noted that the question of whether the right to publish is a thing of value apart from the plates depends entirely on the possible sale; for example, a publisher may reprint and sell profitably many small editions of a book which he could never afford to reset if the plates were destroyed, and, therefore, after the work passes out of copyright he still holds a natural monopoly by virtue of having the plates which were long ago paid for. In this case, the plates will have value after there is no publishing monopoly, but the publishing monopoly, even while it lasts, is not of value apart from the plates. Assuming that the author could disentangle himself from the publisher who owns the plates, he could get nothing for his rights; and this is the situation with the great majority of books still in copyright and still in print which have been on the market five years or more.

The "Publisher's Rule"

For books of this type, publishers used to consider that three years' gross earnings was a fair approximation of value of the "plates including the right to publish." For instance, a book that showed a difference of 50 cents between the cost of presswork, paper, binding, and royalty and the average wholesale price, and which sold 150 copies a year for three years could be considered to be worth as a capital asset $\$0.50\times150\times3=\$225$. There are so many exceptions to the working of this rule, however, that it cannot be applied to many of even that class of books which it seems to fit. The first and second years' sale of a book is almost invariably far larger than the continuing sale, so until the book has been out for 5 years it is not possible to apply the rule. The conditions of the sale must be considered to be such that they are likely to continue during a reasonable period of time. Any spasmodic or special sale must be ignored in the computation if it is unlikely to occur regularly. There is, however, no way of estimating those changes in the world of books which may greatly increase the sale and consequent value.

The need for taking these exceptions into account spoils the rule as any wholesale way of securing a valuation of plates. It must be a separate calculation for every title, and even then the men best acquainted with the conditions surrounding the sale of the books can seldom really agree as to how these should be considered as affecting the value. In short, the rule is of little real value; it is really the exceptions to the rule that govern the value.

Efficiency as an Asset

This rule, such as it is, may also be taken as a guide in estimating the value of plates of non-copyrighted books with one qualification. As such books have no monopoly reserved to the publisher, as soon as they show any outstanding value in excess of the cost of making the plates, some other publisher will step into the market, divide the sale, and reduce the value suddenly. If, by reason of the standing of the publisher, widespread organization, excellence of output, clever advertising, or general prestige, the public still turns to him for the competitive book, in spite of others, the value which seems to attach to it is really not a value of the plates at all, but part of the great intangible asset of a going business commonly called "good will" and really compounded of a reputation for fair dealing, efficient, forceful, successful organization, and honest hard work.

The intangible good will is also inextricably mixed with the books protected by copyright, and forms another reason why the rule is defective. For example, a book in the hands of a strong and vigorous house may show a valuation by the rule of $1,000, while the same book in the hands of a less dominant organization would show but $500. This difference in value by rule has nothing to do with the value of either plates or publishing rights; it is an indication of power and efficiency of one house as compared with another.

A single salesman who falls in love with a book can often affect its sale very considerably, so considerably, in fact, as entirely to change the value of the venture. A house may have published, let us say, a group of religious books for several years with mediocre success, but the group has grown so as to merit anxiety and attention. A department is organized to promote this list. New books are published, and the religious public begins to turn to this house for books. Inevitably, the old books as well as the new ones sell better; but is it fair to say that the value of the old plates is the increased capitalizable asset? Is it not rather the new selling organization that is the thing of value which has been added to the old house?

With all these qualifications, or rather, in spite of them, several American publishing houses are still clinging to this rule. For growing, aggressive houses, it is less dangerous than for decaying and tottering ones, because with the former the value of good will is increasing faster than is reflected in the plate values, while in the latter, good will is seeping away more rapidly than the sales decline, and they wake up to find themselves with a satisfactory book showing but without the power or resources to carry on. Apparently this rule has been one of the primary causes of failure of publishing houses in the past. Valuation by it is safest for a large and active house. It is a very unsafe rule for a small house just starting, for it gives a feeling of confidence in the list of books when none of them has really been on the market long enough to justify much confidence in their long continued earning power, and because, moreover, the flow of quick capital into this most unliquidatable form of asset is very rapid and very liable to cramp the activities of the house.

Varying Factors Affecting Gross Profit

Another factor that renders the publisher's rule of highly debatable value is that its basis is gross profit. Books most difficult to sell must be so priced

as to yield the largest gross profit, but it by no means follows that publishers should be allowed to inflate their value for that reason. Furthermore, the portion of the gross profit that must be devoted to expenses to keep in motion the publishing activities directly connected with the sale of books is constantly changing. For instance, as long as publishers were content to sell their books through jobbing houses which sent their travelers to the retail stores in behalf of all publishers, the expense of selling was far less than when each publisher expected to send men about in behalf of his books alone; but when one publisher first started this policy, the jobbers were pushed out by this form of activity, the other publishers were doomed unless they followed suit, a new and expensive era of closer competition had opened, and the same gross profit indicated a smaller net profit.

The varying factors have affected the author's end of the contract less than the publisher's; three years' royalties probably indicate more nearly the author's vested interest now than three years' gross earnings indicate the publisher's. Publishing has become a diversified and specialized industry, but writing books is very much the same as always. This present study is not, however, involved with the author's side of the question, which is a matter entitled to study as a separate issue.

Classes of Books and Their Changing Values

By way of showing under what classes the plates of a publishing house might fall, the following grouping is presented, based on the analysis of a plate inventory which cost $918,700 for labor and metal before the war.

1. Books in copyright, or, in the case of collected works, more than 50% still protected	$619,600
2. Books more than 50% out	39,345
3. Books the text of which was out or practically so, but which had notes, introductions, or editorial equipment fully protected	135,500
4. Books entirely unprotected	124,255
	$918,700

Of this group, $294,000 were subject to no royalty payment because out of copyright or because the copyright was owned outright by the house.

These figures are based on actual cost of plates when made (they would be much greater now), and they show how variable the element of copyright is in the problem of plate valuation. It is by no means certain that the valuation based on three times the annual gross earnings would be the largest in the first classification or that it would vary among the four groups in the same way as their cost values. The order of values according to the rule might well be 3, 2, 1, 4, or any other combination.

As a matter of fact, these same books which cost $918,700 over a period of many years were valued at the date on which this reckoning was made at $592,000, but by the publisher's rule would have attained a value of $805,000. In other words, the value by rule was about 87.7% of the original cost; but the house itself considered the rule excessive and carried them at a value of 73% of that attained by rule.

During the ten subsequent years, plates to the cost value of $811,000 were added to the great mass of the plate account, and a considerable number of plates were melted and passed out of existence, so that the cost value of the plates extant at that point

amounted to $1,585,673, and the value according to the publisher's rule had risen to $1,310,000, which was only 82.6% of the cost.

This period included the war years, and a new variant had been introduced into the problem. The cost of manufacture of plates had very greatly increased, so that it would seem as if cost values should come nearer the valuation by rule than ever before; but costs of distribution were also creeping up, so that gross profit on which the publisher's rule is based exceeded net profit by a considerably larger margin than it had in the years before.

It must be remembered that the mass of plates mentioned above includes all sorts of books—novels, biographies, poems, essays, dramas, arithmetics, spelling books, school classics, collected works, and almost everything else except subscription sets—and that these various kinds of books present very different phenomena in the way that the demand for them appears.

For example, in the group composed of the titles which found their largest market through purchasers at the bookstores, 42.9% of the sales were composed of the books published within a year, while of the schoolbook sales only 5.4% were of the books published as recently as that. In other words, the books for the general trade must reach a substantial sale at once or not at all, while the educational books come to a maximum only after several years and decline very slowly.

Fluctuating Values of Books

It is a fair generalization to make that biography, fiction, poetry, essays, and general publications of this sort attain their maximum in their first or second year, then sink rapidly to a low level, then recover slightly in their third or fourth year, and enter a gradual decline; but the merest accident can change this course and does change it so frequently that the generalization is seriously impaired. In the first place, there is a considerable number, unfortunately, which never get started at all, but which cost as much as those that do. Then there are some strange examples of permanence. A reference book in history published in 1883 reached a fair initial sale, sank to its lowest ebb in 1886, came again to a high point in 1897, then sank away only to recover again so that in 1919 it was selling more than in the initial year of publication. Another book published in 1886 for the general trade drifted gradually into the school market, and up to 1900 had never sold 1,000 copies in any one year. In the last seven years, the sales have averaged well above 30,000 copies a year. These books are unusual, but the fact is that a group of these supply so large a factor in the annual sales as to upset very seriously any percentage method of calculating total plate depreciation.

Among the educational books the rise and fall of the curve of sales is equally confusing. A very even example is that of a school history published in 1893 which reached its maximum in 1897 and 1898, and has declined very slowly but with absolute steadiness for 30 years. On the other hand, a school classic published in 1883, which reached its maximum in 1895, came within a few hundreds of the same mark in the next 17 years and may again. Yet another collection of plays for school use struck its gait the very first year, and for eleven years the sale has scarcely varied at all year by year.

The skilled accountant was early at a loss how to handle the matter of plate

accounting, and the early inspectors of the Income Tax Bureau met something which even the government red tape had failed to encompass. I look back with amusement on the struggles of the first inspector who visited us. At first it seemed easy. We who had spent our lives in the business were all wrong. Plates must be valued at cost and depreciated one twenty-eighth each year. When presented with the large sales of a few books which had been out over 28 years and the lack of sales of many others which had not been out five, he was not so sure of his ground. The next morning, the plates were to be handled as the Income Tax Unit was handling the lasts in shoe factories! Later, the moulds in an iron foundry seemed a closer parallel. I helped with the suggestion that, as they were used as part of a machine, we might just call them machinery, which was intended as a futile suggestion, but for every suggestion made, I could produce such an array of facts completely discrediting it that little progress was made. Finally the suggestion prevailed that perhaps we knew best how to handle the situation after all, and our system is still in use. The corporation acquired its plates and publishing rights at a fixed value; all plates made since have been regularly charged to expense as the equivalent of depreciation on this lump sum. So long as sales and net profits go up, this is sufficient; when they begin to fall, a larger sum must be deducted. This is unscientific, but it makes for conservative success and it is simplicity itself.

Recent Valuation Methods

The question of valuation has been handled differently by practically all American publishers. In the old days, plates and publishers' rights were always handled as one item, but under pressure of income tax inspectors utterly ignorant of the nature of the item, many publishers have made a division which is absolutely worthless. This usually defines the electrotype plate as unquestionably tangible property, while the right to use that plate to print a book is possibly intangible, though it is probably saner judgment to regard the whole thing as one, on the assumption that the publisher has no plates which he has not the right to use.

One of our publishers, with a mixed trade and educational list, formerly valued their plates and publishing rights at four years' probable earnings. In order to estimate these probable earnings, they stated the actual earnings of the three previous years and, unless they saw some marked reason why the book would probably sell on a different scale, took the three past years as a proper basis for estimate of the four future ones. Under pressure of the income tax people they started on a different basis. They set up a fixed figure for what they called publishing rights or copyrights. This figure they do not depreciate or change. Then they started a strictly plate account, which consisted of ¾ of the cost of the plates of the previous year, ½ of the cost of the plates of the year before that, and ¼ of the cost of the plates of the year before that, and the whole cost of the current year's charges. This, in effect, was setting up the plates at cost subject to a 25% annual depreciation. It seems to me that they have confused the issue, for I am tempted to think that a larger portion of the value is vested in the plates than in the publishing rights, and that they are the more permanent of the two. In any case, publishing rights disappear with copyrights, while

the value vested in the owner of the plates continues, because he holds the field and nobody else can afford to make a set of plates with the small sales then current; even if a competitor does make a set of plates, the original house is still ahead by the amount of the cost of those plates which have already been paid for.

Another publishing house with a mixed list set a fixed value for their plates and publishing rights in 1913, though they carried them in two accounts. The publishing rights or copyrights were valued at a nominal figure and so remain on their balance sheet. What valuation they took for their plates is not clear, but all plates since that date have been charged to expense. This charging of plates to expense is, of course, merely assigning the cost of the new plates made during the year as the appropriate depreciation on the original plate account, as has been said. At what figure this company carried its plates is not clear, but the chances are that their plate account is very small. They govern too great expenditure in plates by making at the beginning of the year a budget of what they will spend for plates, and not exceeding it.

Another house with a mixed list of educational books for high schools and colleges, whose trade books are of the conservative type, values all its old plates at cost; whenever the earnings for two years are less than the cost value, the item is dropped from the list. During the first two years, their trade plates are valued in accordance with their judgment of what they will or will not produce, and are then valued at cost until their earnings for two years get below this level. Their school books are valued at cost the first year, provided that their gross earnings are half the cost of the plates; otherwise they are marked down. They have a separate account for copyrights, and this account they claim to be able to depreciate on a basis of one twenty-eighth each year. It did not seem to be very clear how they originated this copyright item, but apparently it was on the occasion of the re-incorporation of their company some years ago.

A strictly schoolbook house on organization valued its plates and publishing rights at two years' earnings, and this figure was maintained until 1913, all new plates being charged off as made. In 1913, under pressure of the income tax people, they divided their plate account into two accounts, one for plates and the other for copyrights, and depreciated both accounts on the basis of 2% annually. Their plate account is large and their charges for new plates are comparatively small. Whenever the depreciation exceeds the amount of the new plates, they set up the balance as a copyright reserve, so evidently they never depreciate more than the value of the new plates.

Another strictly educational house originally set up the value of its plates at cost annually and depreciated them 25%. This kept a very small plate account. Under pressure of the income tax people during the excess profits tax period, they succeeded in converting their plate account to a different basis by restoring to their capital value the cost of the plates away back to the incorporation of the business and then depreciating them on the basis of 15 years' life, or approximately 6% per annum. Why they took 15 years is not clear, unless they assumed that to be the average life of a schoolbook before utter extinction. They are retaining this basis still, but are suffering heavily from it now that the excess profits have been removed, as there is really not depreci-

ation enough. Their copyrights were set up as a separate item on the incorporation of the business and have never been touched, remaining what they were originally, and have formed part of their invested capital.

Another schoolbook publisher, when the business was bought from the old partnership, paid a certain sum for plates, added annually the amount of plates which were made, and depreciated the total by 10%. About 1916 they saw the error of this method, due to the fact that the whole of the original investment would never be depreciated, so they changed and took off 10% of the original and 10% of each year's additions. This was charged to the expense account, but in some way they have retained it as a reserve on the liability side of the ledger, so that the plate account on the asset side of the ledger represents the original amount plus all additions, while on the liability side it represents all the depreciation. During the years of the excess profits tax they carried, as invested capital, only the net difference between the two accounts.

When the company took over the assets of the partnership, the publishing rights were put in a separate account on an earnings basis, and these they have carried forward. During the years of the excess profits tax they were allowed to consider as invested capital only an amount equal to 25% of the capitalized value of these rights. It is not clear how they add to or depreciate this account.

Real Factors Controlling Values

In determining the value of plates and the rights to publish, sometimes one factor and sometimes the other will control the situation and that depends on several things; moreover, the value under any circumstances depends more largely on the energy and publishing skill of the house than on any other influence. Now, it is obvious that a book may sell so few copies per annum that while it may be profitable for a publisher to keep it in print if he has the plates all paid for, no one else could ever afford to make a new set of plates because the cost would absorb all the earnings for so many years that the venture would be impossible. In this case the control of the plates gives absolute control of the book, subject, of course, to the author's royalty, if any. It makes no difference whether the book is copyrighted or not. But should the book begin to sell for some reason, the copyright would again control the situation, especially if it is about to expire, for as soon as it does lapse, many competitors will enter the field and the sale will be divided among many editions. The exact point where competition will enter the problem cannot be determined, but it is safe to say it usually enters at a point below that at which it is really worth while, for the competitor is apt to exaggerate the value and the probable sale. Competition will probably increase the total sale of the book, but it is not likely to increase the sale to the original proprietors of the copyright.

Then again, copyright *per se* may or may not have any value. If the book does not sell, nobody cares whether you have the exclusive right to sell it or not. There are thousands of titles with a long vista of absolute copyright ahead of them which are out of print, and no one would pay a cent for the copyright. There are some still in print of which this is true. There are even some which within a few years have been large and profitable ventures and are now prac-

tically valueless. The flood of war books of ten years ago are now almost all in this category.

It is the book which sells steadily on in considerable quantities year in and year out that has a great intrinsic value in the copyright and also in the plates. In general, therefore, the conclusion is forced upon one that these two items are inseparable, and long ago the publishers in America recognized this, perhaps unconsciously, when they demanded from the author the assignment of the copyright for its full term and all renewals thereof, in return for their agreement to pay all production and promotion expenses and give the author an agreed royalty on all copies sold as long as his monopoly held.

Effect of Copyright Law

Under the earlier copyright laws, the author could absolutely assign his renewals provided only that some of his direct heirs survived the first 28 years so that a renewal could be secured, but a curious proviso was introduced into the 1909 law to the effect that if the author died during the original term of the copyright, his heirs in a stipulated order of succession should absolutely own the renewal, and as a result it followed that they could assign this right either to the original publisher or some other. A curious gamble was thus introduced, to be determined by the chance of the author's longevity. From the point of view of the politician, this was no doubt "restoring the rights to the poor widow and orphans of a distinguished author," but the immediate effect on the author, when he was trading with a publisher for the sale of his literary output, was to give him something less valuable to sell. This factor had a greater effect on the far-sighted publisher than on the author, who was not reckoning very much on the returns to possible heirs in a far distant future. The provision is a silly, sentimental one and not a practical one.

Some Definite Conclusions

A few definite deductions can be drawn from all this maze of intangible evidence.

1. In copyrighted books of large sales, the plates or machinery of production are inseparable from the copyright or the right to publish.

2. In copyrighted books of small sales, the plates are the important item, and without them the copyright is valueless.

3. When the books cease to sell, the only value connected with them is the metal value of the plates.

4. With the great mass of books, the real value from the point of view of the publishing house itself depends on the skill and ingenuity of the personnel in devising ways and means of selling them.

It is clear, therefore, that it is futile for balance sheet purposes to try to measure the value of plates and publishing rights separately or even to try to value each title separately. Now the items on the asset side of a publisher's balance sheet, apart from plates and publishing rights, can be determined with reasonable accuracy. These are the indeterminate factors. Likewise the liabilities can be reasonably determined if books are properly kept. Publishing is an extra-hazardous business (especially in the early stages of a young house), and is entitled to expect to earn 10% at least on its capital and surplus. Suppose, now, that the plate item was annually increased or shrunk, as the case might be, so that the earnings

should represent 10% on the combined item of capital or surplus. Would not this steady the business and give a real value to the plate item? It is quite clear that this would work all right as long as the business was increasing and would work pretty well as long as there were any substantial earnings; but it would produce a cataclysm when there were no earnings. However, it is high time to have a cataclysm then.

As a matter of fact, this is in effect what is done by several of the old established houses, who have had for years a substantial plate item on the balance sheet and have kept it pegged, charging all new plates to expense as adequate depreciation on the original item.

FACTORS AFFECTING THE MARKETING OF TRI-STATE ZINC CONCENTRATES

By M. D. ORTEN

I

THE Tri-State Mining District, one of the largest zinc mining fields in the world, centers in southwest Missouri, extending into the adjacent states of Kansas and Oklahoma, and is probably more commonly known as the "Joplin District." It embraces about 3,000 square miles of known zinc-producing area, and its furthest limits have not yet been defined. Originally this district was developed as a lead mining center, but in 1872 the first commercial shipment of zinc ore was made. This established the economic value of the high-grade zinc blend associated with the lead deposits. During the year 1926, the field produced lead and zinc ores to the value of more than a million dollars a week. Thus far this mining district has yielded in lead and zinc concentrates an aggregate of nearly 700 million dollars.

Prior to 1894, zinc ore was purchased for the smelter through ore buyers on the basis of a flat bid. The buyer made a visual inspection and a mental estimate of the metallic content and then offered a price per ton for the particular ore in question. This method of marketing the ores was unsatisfactory to the mine operators. In 1894 an effort was made to organize a lead and zinc association, composed of the mine operators, landowners, and business men of the district. The purpose of this association was to change the prevailing system of selling ores. It was proposed that the market price of the ore be determined by its assay value based upon the price of metallic zinc in St. Louis, with proper allowances for transportation and smelting charges, plus a profit to the smelters. The smelters who obtained their ores from the district were unwilling to adopt this method. In 1899 the operators were partially successful, and assaying replaced visual inspection for determining the metallic content of the ore. The other changes which were proposed at that time by the operators were not adopted and have been the source of many disputes and continued controversies between the mine operators and the smelters.

II

Other factors added to the complexity of this problem. Large companies with smelter connections were beginning to operate mines within the district. These companies showed an increasing tendency to acquire additional mining properties. Other mine operators with large ore reserves carefully investigated the possibility of direct smelter connection or other methods of ore treatment, instead of depending upon the continued unsatisfactory marketing system.

The mine operator actually operates the mine, either as owner or lessee. The small operator with extremely limited capital has never carried on very extensive operations. As the mineralized area was extended, the individual operator gradually gave way to the corporation. Today, some operating companies are subsidiaries of the largest industrial and mining interests of the world, while cer-

tain industrial organizations have endeavored to enter the district as operators. To secure property, they have either purchased land outright or carried on an extensive campaign of exploration and development by lease. There are other operators and companies which have grown up with the district, beginning in a small way, but, striking a rich ore body and prices being very high, have developed into large companies.

When the district started operations over 60 years ago, anyone with from $50 to $100 capital could lease an acre of ground. If he struck ore in one of his "gopher holes," he would buy a small steam mill with a capacity of 50 to 100 tons per shift of 12 hours. The earlier leasing system also divided the tracts or leases into lots 200 by 200 feet, except at the corners of each 40 acres. This system of leasing was peculiar to the old Joplin areas; but when larger areas of mineralized land in Kansas and Oklahoma became a part of the district, the average lease was about 40 acres, with many holdings of 160 acres. Later it became desirable to obtain larger leases, and some companies went so far as to obtain the land in fee simple. When the Kansas and Oklahoma sections of the field opened, leases varied from the known mineralized area of the owner's land to the entire owned area. It has been customary in more recent years to lease all the holdings of the lessor, for many cases have been known where valuable ore deposits have been overlooked by a company leasing only a portion of a lessor's holdings.

The terms of the leases in the old Joplin field were for a period of 10 years. In the Kansas and Oklahoma sections of the district, the time has been extended until most of the leases are for a 20-year period.

During the periods of boom, especially in the years 1912, 1915, and the first four months of 1916, when prices were at the highest peak, there was wide speculation in leases. The operator worked under a second, and in some instances under a third or fourth, lease. Subleasing increased the royalties. The final operator during the war often paid as high as 35% royalty, but during 1926, 25% was probably the highest royalty paid, and this amount only when there was a mill on the property. The amount of the royalty varied, but it was never less than 5%.

According to the terms of the contract, the lessee had the privilege of renewing his lease and was given first consideration. However, if the lease were not renewed, the ground reverted to the original owner, except in the case of a sublease, when it reverted to the prior lessee. The lessee had the right to remove his machinery, but he could get no credit for any permanent improvement that he might have made on the property.

When the district moved into Oklahoma, a different system of leasing became necessary, for it so happened that most of the mineralized area was found in the northeast corner of Ottawa County, which had been set aside for the Quapaw Indians. Any leasing of this land necessitated the approval of the Secretary of the Interior and a host of subordinate officials in the Bureau of Indian Affairs. This section of Ottawa County, prior to its becoming a part of the mining region, was extensively known for the prairie hay which it yielded. The leases from the government which allowed the cutting of this prairie hay also carried the mineral rights. Fortune smiled in a most friendly manner on certain individuals who held these hay leases, for under parts of the "hay land" were found some of the richest ore de-

posits of the district. This land is held by the lessee who operates mining properties, but parts have been subleased, and, as indicated above, the royalties have increased with successive leasing. During the war the final operator paid as high as 35%, but this maximum amount has been reduced to 25% in 1926. The terms of many leases required, and still require, the erection of a mill on each 40-acre tract. The cost of constructing a mill, using complete modern equipment, will vary from $100,000 to $150,000.

If one studies a map of the present district, one will find that some companies have a very large acreage under lease. If ore deposits of commercial size are found, mills must be erected on each tract held under a separate lease. Some of the larger companies now have 12 to 15 mills. Their erection obviously necessitates a needlessly large outlay of capital.

One large mill centrally located could take the place of several of the mills now in use, but this is impossible under the present system of leasing. If such a step could be taken, it would mean economies in capital outlay, as well as more efficient mining and milling plants.

The outlay of capital would be greatly reduced through the erection of a few large mills to replace the many small ones now in existence. Larger units could be used—huge crushers, ball mills, and rod mills. Scientific planning and designing could be called upon to insure all possible economies of space, operation, and labor cost. Doubling the capacity of a mill would not necessitate a corresponding labor increase, and replacement of the present number of mills with a few large mills would make possible a considerable saving in mill labor.

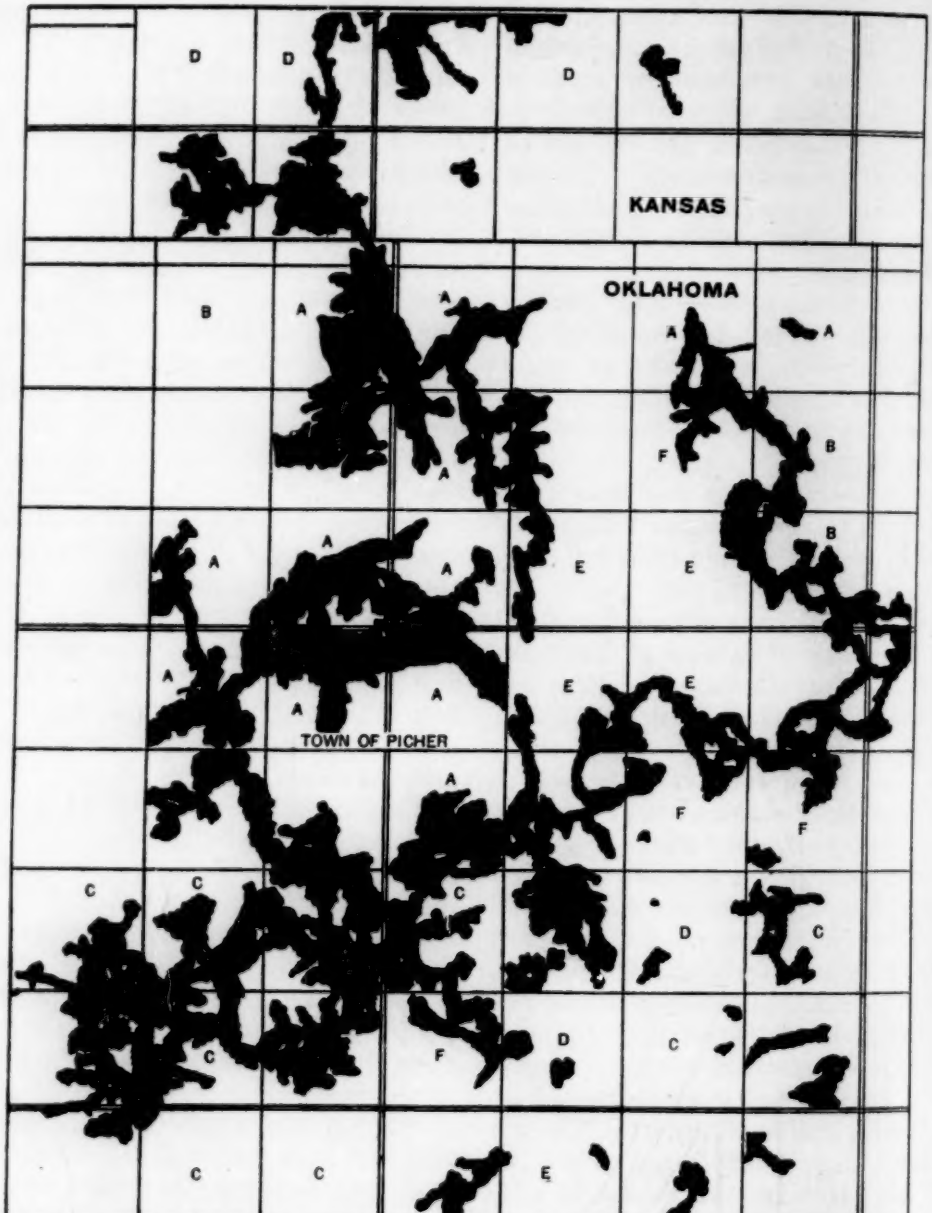
A mill of the size outlined would require underground workings much larger than any to be found in the field. To operate such a mill economically, several of the present workings would have to be connected by underground rail haulage, using electric locomotives, which is economically impracticable at present. Power loading and hauling would replace the present costly man- and mule-power methods. Electrically driven double skip hoisting from large ore pockets at centrally located mills would be considerably cheaper in both power and labor consumption than the present system of hoisting "cans," a method somewhat synonymous to hoisting cars. Car hoisting is practically obsolete in most well-developed mining camps, and the Tri-State is probably the only large mining camp in the world using the can-hoisting method of getting ore out of the ground. Safety for men working under ground would also be promoted, since closed cages could be used in transporting the men to and from the operating level.

Competent engineers have estimated that ground having 3% less mineralization could be worked in the district, if such methods of production as those outlined above could be adopted. Economical working of areas at present abandoned would be possible. The life of the district would be very materially increased.

Consolidation by mining companies has already received considerable attention, and last year 30 companies were producing 80% of the district's output. Since then there have been a number of other consolidations, and rumors are circulating of still others for the coming year. These consolidations, however, mean only combined ownership of properties and not consolidated operation of the mines. Before any such methods can be adopted, a complete revision of the present leasing system will have to

Map I

LEAD AND ZINC ORE WORKINGS IN THE AREA SURROUNDING PICHER, OKLAHOMA



be perfected. It is quite impossible to adapt any of these consolidations to mass production as long as lease terms require a mill on every 40-acre tract. The adoption of any new leasing system will be greatly handicapped by the government regulations on leasing of Indian land, since very much of the mineralized area lies on such land, and any new system proposed will have to surmount government red tape.

The accompanying Map I shows the extent of workings in the area immediately surrounding the town of Picher, Oklahoma. Each small square represents a 40-acre tract, an individual lease. One can easily see that if it were possible to consolidate all the workings and use one or two main shafts and mills, the size of the workings would justify the installation of power machinery for loading and hauling and hoisting, as well as more efficient mill machinery.

Such a plan follows very closely that used by the St. Joseph Lead Company at Flat River, Missouri. This company has developed from a small concern with poorly paying properties to a position among the largest mining companies of the country. The St. Joe has bought out small concerns, abandoned its mills, cut drifts through under ground, and is hoisting all ore at four mills. Underground haulage is for distances up to three miles. If it were possible for a few companies to do this in the Tri-State field, there would be great economies, especially in ore-reserves; and, inasmuch as this is one of the few zinc ore deposits of any size in the country, some steps should be taken to conserve it.

It is not claimed that such consolidation would work as well in the Tri-State district as it has in the southeast Missouri lead belt. Ore deposits vary with districts, the thicker ore bodies of southeast Missouri lending themselves to mechanization. There is no doubt, however, that such methods would pay and would tend to conserve the resources of the district.

Table I shows costs compiled by the Tri-State Lead and Zinc Ore Producers Association for the year 1926 and gives one an accurate idea of the cost of producing a ton of ore. Because of the variation of the ore bodies and methods of operation, average costs have little meaning in this district.

From time immemorial, the zinc in the ore has been transformed into metal by various heat processes. The retort process is most commonly used in zinc metallurgy today. There are two other processes, the electrolytic and the electrothermic. The electrolytic process has been developed in Montana, British Columbia, and Tasmania. The electrothermic process is still more or less in the experimental stage.

If either of the above processes should be adapted to the reduction of Tri-State ores, it would mean an almost complete revision of the smelting business.

III

Originally, the smelters purchased their raw material, the zinc concentrate, from the mine operators. A more recent development has been the operation of mines by smelting companies, resulting in the smelters obtaining information on the cost of production of zinc concentrate. Since the smelters operate as closed corporations, their operating statistics are not available to the public. Thus we find the smelters in possession of mining costs, but the miners do not have smelting costs.

It is this peculiar state of affairs which has furnished the basis for the controversy, of which records may be found

as far back as 1894. Apparently the miners feel, or originally felt, that the smelters are using their knowledge of mining costs to fix a price for concentrates that will just cover the cost of production, especially in times of low prices for zinc. The smelters say that they are not making any money; that theirs has been a losing game for some time.

During times of high prices for zinc, the smelters raise their offer for concentrates, and little is heard of the controversy. However, with a fall in the price of zinc, the old differences are brought up again. Recently, an adjustment committee, composed of both miners and smelters, has been formed for the purpose of settling these differences. The miners have asked that they be given statistics on smelter operation, to which the smelters have acceded, and these figures are soon to be available. Just what effect this exchange of information will have remains to be seen.

The organization of the association in 1894, which has been mentioned above, is probably the first record of the difficulty between the smelter and the mine operator. This controversy has varied in its degree of bitterness, depending upon the price of ore and the price of metal. The increasing number of smelter companies operating mines in the district has given added impetus to the controversy.

In 1924 the Tri-State Lead and Zinc Ore Producers Association was organized, an association of the producers of concentrate. One of its principal purposes is to maintain the price of lead and zinc concentrates. This association does not include in its membership those producers who have smelter connections. They believe that the interest of those who have smelter connections might not

TABLE I. COST OF PRODUCING A TON OF ORE IN THE TRI-STATE MINING DISTRICT

ITEM	OPERATING COST			
	Cost per Ton Rock Hoisted	Per Cent of Operating Cost	Cost per Ton of Concentrates	Per Cent of Total Cost
1. Labor	$1.017	48.79%	15.42%	33.8%
2. Supplies and repairs	.354	16.99	5.37	11.7
3. Liability insurance and accident prevention expense	.062	2.99	.95	2.1
4. Explosives	.174	8.34	2.64	5.8
5. Exploration and development	.107	5.11	1.61	3.5
6, 7, 8, 9. Power, all classes (fuel and electricity) consumed	.174	8.33	2.63	5.8
10. Fire and tornado insurance	.019	.93	.29	.6
11, 12. Management and office salaries and expenses	.091	4.37	1.38	3.0
13, 14. Taxes (excluding federal income tax)	.021	1.03	.32	.7
15. Miscellaneous	.065	3.12	.99	2.2
16. Total operating cost	$2.084	100.00%	31.60%	69.2%
17. Amortization of capital cost of:				
(*a*) Land, leases, development of mine, etc. (depletion)		3.62		
(*b*) Plant and equipment (depreciation)		2.89		
Total			6.51	14.3
18. Royalty			7.52	16.5
19. Total cost of production			45.63%	100.0%

Average mill recovery, 6.595%.
Rock tons hoisted per man per day, 4.715 (based on total men employed in mine, mill, and miscellaneous surface labor).
Tons of concentrates produced per man per day, .3168.

be friendly to producers who operate on an independent basis.

At the meeting of the American Zinc Institute in St. Louis in April, 1925, the smelters' viewpoint and the miners' viewpoint were discussed, and a committee was appointed consisting of three mining men and three smelting men who were to report during the meeting. The committee met several times and asked for leave to continue its study. The work of the committee was continued at the annual meeting of the Institute in 1926, most of its activity being directed to effecting an exchange of statistical information in the form of smelter costs. This exchange would enable the miners to arrive at a definite base price for ore. Since the costs of smelter operation have not been common property, it has been difficult to determine a fair base price for concentrate.

At the meeting of the American Zinc Institute in April, 1927, it was stated that the smelter costs of producing the metal from the ore would be available within 90 days, but as yet they have not been released. Just how the releasing of smelter costs will solve the problem is a matter of much speculation. There is no way it can be accurately determined, other than by actually seeing its operation in practice.

The solution of the controversy confronting the miner and smelter can be reached only by carefully considering the questions which interest them mutually. There is no doubt that increased demand for zinc products by the consuming public will aid. A study of the problems relating to the leasing system, the plans and program for publicity and advertising, and the effect of the tariff on the industry may indicate the basis for settlement of the differences.

It has been pointed out in some detail that under the present leasing system a mine operator is forced to erect a mill on each 40 acres of his lease. The financial expenditure is large if the company operates several properties. A study of the accompanying map shows this very clearly. In the case of Company A, there are twelve 40-acre tracts, and on each there has been erected a mill, at an expense of $75,000 to $150,000 per mill, depending on the type. If a new system could be evolved which would permit the construction of one central mill in place of several, the mill would be more complete, and the total capital outlay would be much less. The new system must be either purchase of the land in fee or a different method of leasing. But purchase of this land in fee presents a multitude of legal technicalities, because the land has been set aside as an Indian reservation. However, a different system of leasing might be evolved whereby the ore would be sampled underground and hauled to the central mill. The royalty could be determined as fairly in such a manner as it is today.

The ownership in fee or a new system of leasing would change the operating conditions in the district and allow only those companies with unlimited capital to operate. The district has long been known as the camp of the small operator, and it would be difficult to effect these changes. There is, however, a tendency toward the larger operating companies, effects of which have been described above.

IV

Prior to 1922 the advertising and publicity for the zinc industry at large were conducted by the secretary of the American Zinc Institute. It was directed to the public, in an attempt to increase the consumption of zinc products. At the annual meeting in 1922, a committee

on advertising was named, and such work in these fields as has been done has been carried on through this committee. This first committee presented an exhaustive report regarding its plans for the promotion of the use of zinc in its several fields. They asked for a sum of $200,000 to be raised by equal contributions of the smelters and the mine operators. In 1925, the committee reported progress, but the campaign fund had not been raised. The operators raised their allotment, but the smelter companies did not make their contribution at this time. The latter believed that no material benefits would be derived from the proposed campaign. The plans for cooperative work between the smelter and the mine operator were temporarily abandoned, and the mine operators turned to the manufacturers of sheet steel for their cooperative labor in publicity and advertising.

At the 1927 meeting of the American Zinc Institute, the Secretary of the Sheet Steel Extension Committee reported a decline in the use of zinc-coated products. This decline reflects upon the consumption of zinc used in galvanizing. At one time, over 60% of the production of the district was used in the manufacture of galvanized products.

The publicity committee recommended a regular and persistent publicity campaign in the newspapers and trade publications, to be conducted by the American Zinc Institute, the one organization in which all parties interested in zinc meet.

It was proposed by the leaders of the American Zinc Institute that it put out in printed form, before the mining companies and the smelting companies producing slab zinc, a plan to spend, not for their own advertising but in addition to their own advertising, a definite sum on ore and on metal, to be combined with the funds of the Sheet Steel Trade Extension Association for a publicity and advertising campaign. In addition to the publicity and advertising campaign fund, individuals are to be chosen to sell the jobber a heavier coated zinc product.

Any program of publicity and advertising that would effectively create an added consumer demand for finished zinc products would proportionately help the smelter and the mine operator. For the campaign to have the greatest success it is necessary for all interested parties to contribute both time and money. If the cooperation is not wholehearted, there is great possibility that the campaign will not be so successful as desired.

V

Because of the lack of available data, the value of the tariff to the industry is difficult to ascertain. The producers of zinc ore in the Tri-State District believe the tariff has been of great value to them. Canada and Mexico are the chief competitors in the production of ore, while Upper Silesia and Australia have productive fields. The Canadian, European, and Australian smelters produce metallic zinc, but they offer little competition to the domestic market.

According to the tariff act of 1922, zinc-bearing ores containing 25% of zinc or more shall bear a duty of 1½ cents per pound on the zinc contained therein. The sampling and assaying shall conform to the requirements of the Treasury Department, under whose administration the tariff acts fall. Zinc in blocks, pigs, and slabs shall bear a duty of 1¾ cents per pound. The average zinc ore produced in the Tri-State District contains about 60%, or 1,200 pounds of metallic zinc. The duty on 2,000 pounds of ore containing 1,200

pounds of zinc is $18, but in the smelting there are some losses, and the zinc recovered as metal usually averages about 85%, or 1,020 pounds. With the duty at $18 per ton of 60% zinc ore, the cost is about 1¾ cents per pound of zinc recovered, or the same as the duty on zinc in slabs, blocks, and pigs.

Producers of zinc ore outside the United States market their product with foreign smelters. There is more zinc ore produced in this country than meets the domestic consumption; hence there is little need for imports, except for special purpose. The present schedule is high enough to keep out foreign ores, and the exclusion of these ores yields the government no revenue. Since the duty on zinc in ore and zinc in slabs, blocks, and pigs is equalized, one possible source of friction between the smelter and ore producer is removed. However, it is quite likely that the value of the tariff is wholly psychological.

This sums up the factors that affect the differences between the miner and the smelter up to the present time. The results of the proposals discussed above cannot be ascertained now. In them there is a basis for a working agreement, which if properly handled may go a long way towards a settlement of the controversy between these two groups, and allow the miner and the smelter a fair return for their labor. However, the end is not yet.

FINANCING COOPERATIVE MARKETING ASSOCIATIONS

By GORDON H. WARD

THERE are at present nearly 11,000 cooperative marketing associations listed with the Division of Cooperative Marketing in the United States Department of Agriculture. Their membership totals close to three million farmers, or approximately 40% of all the farmers in the country. During the past year these associations handled over 10% of all the farm products sent to market. In certain regions the cooperatives handle the greater part of the special crops grown, such as California fruits and Minnesota-Wisconsin dairy products.

With the steady growth in the volume of business handled by the various associations, their financial requirements are expanding rapidly. In a great many cases the members are unable to supply the necessary funds, so that the cooperatives are obliged to turn to the established channels of credit to satisfy their needs. The extent of the requirements of some of the larger associations can be gauged from the $5,500,000 bond issue recently floated in Wall Street for the Sun-Maid Raisin Growers.

The methods of financing employed are in a large measure determined by the type of organization used by the cooperative association. There are two general types of organization, the federated and the centralized. The federated type is a number of independent local associations, joined together in a federation for the joint merchandizing of the output of the various locals. The locals in turn are composed of the farmers of a given locality who own their local association plant, as in the Wisconsin Cheese Producers Federation. The centralized type, on the other hand, is a single association enrolling a major portion of the production of a special crop in a given region. The association owns all the plants scattered through the territory, and the members deliver their crop to these plants according to contract.

I

The federation and the local associations composing its membership generally secure their fixed investment capital in three ways:

1. Common stock and occasionally preferred stock
2. Demand notes signed by the farmer members
3. Authorized deductions from sales returns

The centralized type of association is generally organized without capital stock and usually secures its fixed investment capital through a subsidiary joint-stock company organized under the general corporation laws of the various states.

1. *Stock.* Most of the local cooperative marketing associations, either members of federations or independent, are organized with capital stock. A survey of over 10,000 cooperative associations of all types made by the United States Department of Agriculture in 1926[1] showed that 69% of these associations

[1] *Agricultural Cooperation*, Vol. IV, No. 20, September, 1926.

are using capital stock as a means of securing their investment capital.

Most of the associations organized prior to 1910 used the regular corporation form of organization and embodied cooperative principles and practices in their by-laws. Most of the Farmers Grain Companies organized in the grain belt about the opening of the century employed this type of organization and secured their capital through the issuance of shares of stock. In many such companies the by-laws provide that each stockholder shall have but one vote in the affairs of the company, regardless of the number of shares owned, though often the number of shares a member could own was limited to 10. In some cases members were required to offer their stock to the directors before selling, in order that the control of the company might be retained by the farmers whom it was organized to serve. Rather commonly the return on the capital stock was limited to the current rate of interest, and any surplus at the end of the year was distributed among the patrons in proportion to the amount of business done with the association.

In 1911 Wisconsin passed a law providing for the incorporation of cooperative associations with capital stock, and since that time most of the other states have passed similar laws. These laws generally provide for the issuance of common and preferred stock, and in many cases state that no share shall be issued until the full par value has been paid into the treasury of the association. Some of the states require that cooperative associations build up a permanent reserve fund. Minnesota, for instance, requires that associations place at least 10% of the net earnings each year into a reserve fund until this accumulates to 50% of the paid-in capital. This reserve fund serves as part of the security for loans and credit extended the associations.

2. *Demand notes.* In certain instances where it has not been deemed feasible to sell stock to the farmer members, the cooperative has been able to obtain loans secured by demand notes signed by the members. When the Clintondale Apple Growers Association was organized to pack, store, and sell the fruit grown by its members, each farmer signed a demand note for $500 made out to the association. The association pledged these notes with a bank as collateral for a loan with which to buy a tract of land and start work on a storage warehouse and packing house. This property was mortgaged for the additional funds required to complete the plant. These loans are gradually being paid off by funds secured from a levy of a few cents on every bushel of fruit handled through the plant.

3. *Deductions from sales returns.* This method of securing funds from the members is employed more frequently by the federation association than by its local member associations. It is one of the most popular methods used by these federations and rapidly accumulates the required funds.

When this method of financing is employed, the members authorize the management to deduct from the sales returns due them as producers a stated amount for each unit marketed through the association. In the case of the Washington Cooperative Egg and Poultry Association and the Poultry Producers of Central California, the deduction is 1 cent per dozen eggs. The Dairymen's League deducts from 5 to 10 cents per hundred pounds of milk, and the Land O'Lakes Creameries and the Wisconsin Cheese Producers Federation approximately 1 cent per pound of butter or cheese handled.

The rapidity with which these deductions accumulate in the case of an association handling a large volume of business is rather startling. The Dairymen's League accumulates about $3,000,000 a year in this way. This levying power enabled this particular association to repay loans extended by bankers, when it was first starting to market milk, at a rate which startled these conservative financiers.

When this method of financing is employed, each member is credited with the amounts deducted from his sales returns, and annually or at shorter intervals, he is issued a certificate of indebtedness or a share of stock for the amount. These securities usually bear the current rate of interest and are redeemed at the end of a stated period of years. The Land O'Lakes Creameries redeems its certificates at the end of two years, the Cooperative Pure Milk Association and the Dairymen's League at the end of five years. Other associations hold the member's money for seven years or more before repaying him, while the California Almond Growers Exchange repays its members for their deductions "when in the judgment of the board of directors there are available funds for such purpose." The Washington Cooperative Poultry and Egg Association issues capital stock at $1 a share to its members for deductions and will start redeeming these shares in rotation when sufficient capital has been accumulated to finance the plants it owns and its marketing operations.

This method of financing makes the fixed investment capital of the associations a revolving fund. Each member supplies money to this revolving fund in direct proportion to the volume of business he does with the association. The members are stimulated to take an interest in the conduct of the affairs of the association, so that it will be able to redeem these securities at the proper time.

The fact that the authorized deductions from the returns due to members accumulate automatically, so long as the association continues to function, might prove of value to bankers and business men who make loans or extend credit to the association. It would probably be possible to attach these funds and secure a court order requiring that at least a certain portion of these deductions be applied to the repayment of the indebtedness. This power of assessment thus virtually assures the eventual meeting of financial obligations incurred by the cooperative associations employing this method of financing.

4. *Subsidiary corporations.* The centralized type of cooperative association is usually organized without capital stock and hence cannot obtain funds through the sale of this type of security. In order to secure the necessary plant and warehouse facilities, one or more subsidiary corporations are organized and operated under the control of the cooperative association.

The Sun-Maid Raisin Growers is a centralized cooperative association employing this method of financing. This cooperative organized a Delaware corporation known as the Sun-Maid Raisin Growers Association. This corporation owns 20 plants and 4 receiving stations in the California grape area. The cooperative delivers all its raisins to the Delaware corporation for marketing.

The California cooperative association and the Delaware corporation are bound together in three ways. They both have the same president and managing director, Ralph P. Merritt. The cooperative holds all of the common stock of the corporation. Finally there are contracts between the two organiza-

tions which further cement the bonds of control.

The Delaware corporation has secured the funds needed for its plants through the issuance of 15-year 5% debentures (due in 1938) to the amount of $205,500, the recently issued first-mortgage 6½% sinking fund bonds to the amount of $5,500,000, and 7% cumulative preferred stock amounting to $2,394,200. The 100,000 shares of common stock are without par value and are not assigned any value on the balance sheet, being held by the California cooperative for purposes of control.

While the grower-members of the cooperative have purchased these securities as far as they have been able, the greater portion have been sold to business men and other investors in California and the East. The security behind these issues is such that but little difficulty has been experienced in marketing them at 98½.

The direct security for the bond issue of $5,500,000 is a closed first mortgage on all of the physical properties of the corporation. The land, buildings, and equipment have been appraised at $6,483,649. In addition are pledged all patents and rights and interests in trademarks. Further security is afforded to the bondholders, debenture holders, and preferred stockholders by the peculiar nature of the contract with the California cooperative. This contract has been summarized by President Ralph P. Merritt as follows:

> The entire annual crop of raisins received by the cooperative association from its members is to be delivered to the corporation during the life of the contract (which will not expire until 1973) without cost and free from lien. The corporation is to deduct from the proceeds of its sales all operating, selling, and general expenses (including depreciation), interest, full dividends on its outstanding preferred stock, and any reserves necessary to maintain net working capital at not less than $2,000,000, before remitting the balance of sales proceeds to the cooperative association. The cooperative association agrees to furnish such additional moneys, if any, as may be necessary in every year, in addition to sales proceeds, to cover the above expenses, interest, dividends, and reserves.
>
> In order to provide for the sinking-fund requirements on these bonds, the corporation is to have the right, at its option, to deliver to the association in any one year, in lieu of cash, preferred stock of the corporation taken at par up to a maximum of $4 for each ton of raisins sold during the preceding year; the cash thus retained to be applied, so far as may be necessary, to sinking-fund payments.

The strength of this contract, from the banker's and investor's viewpoint, can be seen from the income statements certified by public accountants. The annual sales average approximately $20,000,000, while expenses amount to $9,500,000, leaving a balance of $10,500,000 for interest, dividends, and remittances to the cooperative. This is almost twice the amount of the bond issue. This favorable income position is not likely to be seriously changed for the worse, inasmuch as the cooperative handles over 75% of the raisins grown in this country and over 50% of the world crop. It seems difficult to imagine a safer commercial investment.

While not all subsidiary corporations of cooperative associations have such a strong financial footing, from the investor's and banker's standpoint, most of the cooperatives employing this method of financing can use the crop which they are marketing for security. Most of the agreements with the members give the association power to sell the product turned over by the member and return to him the net proceeds, less all necessary expenses. Necessary expenses include all charges for financing.

II

The methods used by the cooperative associations in obtaining operating capital resemble more closely those used by profit-seeking enterprises than in the case of fixed capital. For convenience the methods of securing operating funds may be grouped under six main headings.

1. Sale of securities, supplemented by reserves
2. Advances from members in the form of commodities
3. Drafts drawn on customer or agent, or agent's bank
4. Lines of credit from banks or commission houses
5. Secured loans of various kinds, usually commodity loans
6. Revolving fund supplied by members of the association

1. *Sale of securities.* Very often the cooperatives which sell stock do not need to invest all the proceeds in fixed assets and can use the balance for financing current operations. Any accumulated surplus can also generally be used for this purpose, unless some restrictions are placed on its use by the articles of incorporation or the by-laws. But funds of this class are rather generally inadequate and must be supplemented in various ways.

2. *Advances from members.* One of the oldest and simplest methods of obtaining operating capital is to make the producer wait for his money until his product has been sold and the money received from the purchaser. While this may appear on the face of it to enable the association to do without working capital, in reality it is requiring the members to furnish the association with the necessary working funds. The association has to carry the investment in the product handled while the commodity is going through the marketing process regardless of where it secures the funds. In this instance it secures the funds from the members directly, though no money as such changes hands. The funds in this case are in the form of the commodity. The Dairymen's League, a majority of the corn belt live-stock shipping associations, and many fruit shipping cooperatives employ this method of financing current operations.

3. *Drafts.* Many producers of crops, which have a long growing period and a short harvest time, must have cash to pay their debts as soon as the crop has been gathered. Associations handling crops of this character, grains and cotton in particular, must pay their members a large part of the market price on delivery of the crop to the association. Where competition from cash buyers is especially keen, as in the wheat belt of the Northwest, the cooperatives are forced to pay full cash market prices and rebate any surplus to patrons at the close of the business period.

When the cooperatives which face this heavy seasonal requirement of operating capital can sell a part of their supply at once, it is very often possible to draw drafts on customers. The associations following this practice are able to draw drafts amounting to 60% or 75% of the market value of the shipment. Some of the cooperative grain elevators use this method, as do some of the cotton associations for their immediate sales.

A number of the egg and dairy cooperatives pay cash on delivery of the product by the members and secure a part of the necessary funds through drafts on shipments. The Washington Cooperative Egg and Poultry Association, for instance, follows this practice. It sells a large part of the eggs received from its members through its selling

agency in New York, the Pacific Egg Producers Cooperative. When a shipment starts for New York, it is consigned to the Washington association's bank there and a draft drawn on the bank for 75% of the market value of the eggs. The bank turns over the eggs to the Pacific Egg Producers to sell, under a trust agreement. When the eggs are sold, the draft is paid at the bank and the balance sent to the Washington Association.

4. *Bank loans.* Many cooperatives secure a goodly part of their operating capital from banks on lines of credit. The Poultry Producers Association of Central California has arranged with local bankers to advance the necessary funds with which to make the advance payments to the members at the close of each week for the eggs delivered during the week. This association ships a part of its deliveries from members to the Pacific Egg Producers in New York, which sells the eggs and remits to the California association; the latter repays the bank loans with these funds and the receipts of money from local sales.

The Land O'Lakes Creameries pools its sales on a monthly basis. But since the returns from eastern shipments are not all in by the end of the month when settlement must be made with the member creameries to enable them to pay their farmer members, arrangements have been made with Minneapolis and St. Paul banks to advance the necessary funds. These credits are promptly extinguished upon receipt of remittances from customers.

A number of the farmers' cooperative grain elevators in the Northwest secure a large part of their operating funds during the busy fall season on lines of credit from certain of the large grain commission firms in Minneapolis. The money is supplied directly by the commission firm or deposited in the local bank. This practice enables the cooperative to pay cash for grain, in order to meet competition, and secure credit at lower interest rates than otherwise, but has the disadvantage of restricting its selling outlets in the central market to the one commission firm.

5. *Secured loans.* The cotton, wool, and wheat pools have their commodity delivered to them by their members in a few months' time, while it may be a year or more before the crop is all sold and payment received. The usual method of financing in such cases is to use warehouse receipts as collateral for bank loans up to 75% of the market value of the commodity. This enables the association to advance this percentage of the amount due each member, who then has to wait for the completion of the sale of the crop by the association before receiving the balance of his money.

The tobacco associations have developed what they have termed "general collateral." Instead of depositing with banks warehouse receipts for specific lots of tobacco, they deposit with an acceptable trustee certificates from warehousemen stating that tobacco of specified value has been stored by the association. The association can draw out and sell tobacco of any kind at any time, provided only that an equal value of the product is stored in the warehouse to replace that withdrawn. In this way there is always a specific value of security for the bank loans. This arrangement gives the bankers better security, at the same time permitting the cooperative greater freedom in the matter of marketing its holdings.

In a number of instances the cooperatives have had to erect warehouses of their own. But banks can hardly look with favor on a warehouse receipt issued

to the Staple Cotton Association by the Staple Cotton Association for cotton owned and stored by the Staple Cotton Association. In order to avoid this difficulty many of the associations handling cotton or tobacco have formed subsidiary warehouse corporations controlled by the association but bonded by the United States Department of Agriculture. Paper having as security a "staple" agricultural commodity can be rediscounted with the Federal Reserve banks unless the maturity is over nine months.

The North Carolina Cotton Growers Cooperative Association has been successful in using bankers' acceptances secured by Federal warehouse receipts. The States and City Bank and Trust Company, of Richmond, Virginia, has acted as syndicate manager for a revolving credit of $3,000,000 which has been handled entirely by bankers' acceptances. The syndicate manager secured commitments from various banks in Boston, New York City, Cleveland, and other northern financial centers.

Some associations need credit for a year or more in order to complete their marketing program; and, in the case of cattle marketing associations which extend production credit to their members, the need is sometimes for loans running as long as three years. Banks must keep their funds in liquid loans and do not like such long-time paper, especially since the Federal Reserve banks will not rediscount paper running longer than nine months. In order to meet this need for loans running from nine months to three years, the Federal Intermediate Credit System was established in 1923 and has been of great assistance to a number of the associations storing staple commodities.

Since warehouse receipts or shipping documents, according to the rulings of the governing board, are accepted only on a very limited number of staples and semiperishables, and the rules governing the warehouse receipts are very strict, the amount of loans extended direct to the cooperatives has been somewhat restricted. However, the system has enabled the associations to secure adequate credit from the commercial and local banks at reasonable rates, since the banks can rediscount this long-term paper with the Intermediate Credit Banks. While the Utah Poultry Producers were unable to secure loans on eggs in storage or in transit from the Intermediate Credit Bank, the privilege of rediscounting enabled the local banks to supply the necessary funds.

6. *Revolving funds.* An increasing number of the cooperative marketing associations of the country are securing a growing proportion of their operating funds through a revolving fund supplied by the members. The Poultry Producers Association of Central California has built up an advance fund of over half a million dollars through deducting 1 cent per dozen from returns to members for all eggs delivered to the association. These deductions are covered by certificates of indebtedness which are redeemed after about seven years, and the amount so redeemed is replaced by the deductions made during the year in which the redemption takes place. This advance fund is used for making advance payments to members and thus reduces considerably the amount the association has to borrow from the banks.

The Washington Cooperative Egg and Poultry Association has built up a revolving fund of over a million dollars by means of deductions from settlements with members for eggs and poultry delivered to the association. Only a part of this amount is used for financing the marketing operations, since a portion of these funds is tied up in plants. Through

deductions of 10 cents per hundred pounds of milk delivered by members, the Dairymen's League has built up a revolving fund of over $12,000,000, nearly half of which is available for use as operating capital. In fact, this cooperative association is virtually independent of the banks as far as operating funds are concerned. The effectiveness of this method of securing operating capital has resulted in its adoption by an increasing number of associations throughout the country.

III

From the standpoint of bankers and investors, it appears that cooperatives are generally able to offer somewhat better security for loans than are ordinary profit-seeking corporations. Most states require that the cooperatives build up a reserve fund amounting to 30% or even 50% of the paid-in capital, and state officials see that this requirement is met. This fund usually covers any deficiency in case the specific security given for a loan proves inadequate. Furthermore, those cooperatives which require demand notes from their members sufficient to cover the investment in plant and equipment can secure the payment of these notes in case the property does not bring sufficient to repay a loan. The associations financing by means of subsidiary corporations usually turn over the product to the subsidiary without payment and free from lien, as in the case of the Sun-Maid Raisin Association, or have some other contract arrangement which enables the subsidiary to offer security over and above that specifically pledged.

Cooperative associations are almost always able to meet their current obligations to bankers and business men. The agreements between the association and the members almost universally empower the association to deduct all expenses before making returns to members, so that barring a catastrophic drop in prices, there is generally a larger ratio between current assets and liabilities to banks and trade creditors than in the case of ordinary business concerns. Furthermore, with the increasing use of a revolving fund supplied by the members of the association, the percentage of the operating capital which must be secured from outside sources is much reduced. This fund can also be tapped in case the specific security proves inadequate, while at the same time it enables the association to meet its trade obligations promptly from its own funds.

Finally, there is an underlying element of security for all those having financial dealings with cooperative associations which is inherent in their character. These associations are organized and carried on for the purpose of marketing the crop or crops of a group of farmers. Very often it is the only safe and satisfactory way these producers have of disposing of their products. They are therefore bending every effort to make their associations enduring business organizations which shall have an enviable reputation for financial integrity.

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The first Department, "Summaries of Business Research," comprises summaries of the results of the investigation of various business subjects. "Case Studies in Business," the second of these Departments, was suggested by one of the outstanding characteristics of the Graduate School of Business Administration, the case method of teaching. Case studies are based upon the actual experiences of business concerns; to avoid disclosure of confidential material, however, it is necessary to disguise the names of the concerns. The third department, "Legal Developments Significant in Business," has been added to permit a survey of the steps which are now being taken and which possibly should be taken in the future by courts and legislative bodies to improve the quality of the service that law can offer to business. The last Department contains critical reviews and short descriptions of new books of interest to business men.

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SUMMARIES OF BUSINESS RESEARCH

MARKET CAPITALIZATION RATES OF INDUSTRIAL EARNINGS

BECAUSE of simplicity, the capitalization of earnings is often used as a method for appraising the value of the common stock of a going concern. Since, in the last analysis, the value of any particular business is its capacity to earn profits, this method would seem to conform to sound economic theory. It is the purpose of this article to consider the results of a study undertaken to determine normal rates of capitalization for certain selected types of business. The problem is not so much the justification of the method, but rather the determination of the proper rate which should be used in capitalizing earnings, and the extent to which this rate can be of real use in valuing the common stock of a given concern.

By the rate of capitalization is meant the ratio of per share earnings to the market price of a particular common stock[1]. This ratio represents the market's estimate of the risk involved in that particular company and will, of course, be greater as the probability of profits decreases[2]. By considering a number of companies within a given industry over a sufficient period of time, the normal rate of capitalization, if there is any, can be determined for that particular industry. In other words, it should be possible to determine whether there is any rate of capitalization which measures the market's estimate of the risk involved in the particular industry, and if so, what this rate is. In this instance attention will be devoted to determining the rates of capitalization for steel and iron, automobile, petroleum, tobacco, chain and department stores, and mail order houses.

Statistical Method

The normal rate of capitalization for any particular industry will seldom be the same as the arithmetic average of all the rates in that industry. If a large number of companies is studied, it will be found that the rate of capitalization of earnings will vary within a wide range. In some cases the rate may be as high as 50% and in others as low as 5%. If the majority of the rates range between, say, 15% and 25%, it is obvious that little weight should be given to the extreme variations. It is much better to take the average of the most representative rates, and it is such an average which is here considered as the normal rate of capitalization.

Before considering the results of this study, some explanation of the methods employed should be given. It has already been stated that only certain industries were studied. The stocks chosen for these groups were the common stocks actively traded on the New York Stock Exchange during 1924. To determine the rate of capitalization for a given stock, the average of the

[1] If a stock is selling at $100 and is earning $10 per share, it is capitalizing earnings on a 10% basis. The rate of capitalization is 10%.

[2] Such a statement is true only in the long run. Over a short period there may be little relationship between selling price and earnings.

TABLE I. AVERAGE AND NORMAL RATES OF CAPITALIZATION, 1922-1925

Industry	Normal Rate	Average Rate
Petroleum	9.45%	10.85%
Tobacco	10.91	11.91
Steel and Iron	11.64	14.28
Department Stores	13.09	13.09
All Groups	13.22	14.35
Chain Stores	14.20	15.83
Mail Order Houses	15.14	15.14
Automobiles	18.32	19.35

monthly highs and lows was divided into the per share earnings[3]. This was done on a yearly basis for the period 1922 to 1925 inclusive. Yearly averages as well as a four-year average were then computed for each of the various groups and for the combined groups.

A reenforced median average was used to determine the normal rate of capitalization, while an arithmetic average was used for the average rate. Since it was thought that the extreme rates should not be included, it was necessary to take an average of the more typical rates. This was done by using a reenforced median[4], which resulted in the elimination of the extremes. In order to compare this normal rate of capitalization with the average rate for all the stocks in a certain group, an ordinary arithmetic average was computed.

Capitalization Rates Vary

While the rates of capitalization computed over a four-year period can hardly be considered as conclusive evidence that such rates accurately reflect the risk involved in the particular industries, they do throw some light on the subject. An examination of Table I will show the market's estimate of the risk involved in the industries chosen for this study. Both the average and normal rates for the eight groups of stocks have been indicated in the data given in Table I. It will be noticed that the automobile group was considered to involve the greatest risk, having a normal rate of capitalization of 18.32%. At the other end of the list is found the group of petroleum stocks, with a capitalization rate of only 9.45%. The risk in the case of tobacco stocks was considered only slightly higher than for petroleum companies, being only 10.91%. This, in turn, was only slightly lower than the rate for steel and iron, which was 11.64%. The next lowest rate was 13.09% for department stores, nearly two points higher than that for steel and iron. The risk in the case of the chain store group was considered about 1% greater than for department stores, and about 1% less than that for mail order houses.

It is interesting to note that the market seems to estimate the risk involved in the petroleum, steel and iron, and tobacco industries as less than that involved in the three types of retail stores. It is a generally accepted theory that the further back one goes in the productive process, the greater will be the fluctuations in business activity and consequently in the rate of return. From this one would expect the market to demand a high rate of capitalization

[3] In computing the rate of capitalization it was obviously impossible to compute any rate for those stocks which were not showing earnings. Such stocks were not considered in computing the average for the groups.

[4] A reenforced median is the arithmetic average of the mid items of a series arranged according to magnitude. In this case, the rates of capitalization were arranged in series according to magnitude. An equal number of the low and high rates were discarded and an arithmetic average of the remaining rates taken. In this way the average obtained was one that could be considered as most representative of the group as a whole.

in those industries dealing with raw materials and a low rate for the retail trade. But this is entirely contrary to what seems to have been the case. Both the petroleum and steel and iron industries deal with raw materials. The latter is particularly noted for fluctuations of earnings. Yet the rates of capitalization for these groups of stocks is less than that for the retail trade. In fact, the petroleum industry is rated as the safest of the seven studied. From this it seems that little reliance can be placed on the theory that industries dealing primarily with raw materials demand a higher rate of capitalization of earnings because earnings are more subject to fluctuation.

It is obvious that numerous factors affect the risk element for groups of stocks. One of these is the newness of the industry. That this exerts a considerable influence on the estimate of the risk in a particular industry is evidenced by the 18.32% rate for automobiles. While numerous other factors are partly accountable for the high estimate of the risk in this industry, it seems entirely safe to attribute a great deal to the newness of the industry. The same may be said for chain stores.

Upon reference to Table I it will be noticed that in every instance the average rate of capitalization is in excess of the normal rate[5]. With the exception of steel and iron, this difference is generally small, but in this particular case the average rate was 14.28% as compared with a normal of 11.64%. From the fact that the average rate is invariably in excess of the normal rate, it would seem to follow that the market tends to minimize rather than to magnify the risk for those stocks which sell out of line with the group as a whole.

[5] This is true in all instances for which a normal rate was computed. For department stores and mail order houses it was thought that the average rate was typical, so no other rate was computed.

TABLE II. NORMAL RATES OF CAPITALIZATION, BY YEARS, 1922-1925

Industry	1922	1923	1924	1925
Petroleum	9.22%	8.75%	9.24%	10.61%
Tobacco	13.74	9.68	10.41	9.81
Steel and Iron	5.81	16.51	8.89	15.36
Department Stores	15.26	16.55	11.85	9.73
All Groups	13.98	15.14	12.41	11.34
Chain Stores	17.80	17.13	13.18	8.69
Mail Order Houses	15.03	17.14	18.29	10.12
Automobiles	20.99	20.23	15.06	17.09

That the rates not only vary as between industries but for the same industry from year to year is evident from an examination of Tables II and III. Table II gives the normal rate for each group and for all the groups combined for each of the four years. Table III presents the average deviation from the normal rate. By the average deviation from normal is meant the average yearly fluctuation of the rate from the normal rate. To obtain this average deviation the yearly rates were added to or subtracted from the normal rate, as the case might be, and the *sum of these* divided by four.

The capitalization rates for the various companies showed wide variations from year to year. These variations within a given group were considerably greater than the year to year variations *for the industry* as a whole.

The fact that the rates show such wide deviations from normal would seem to cause considerable doubt as to the advisability of attempting to use any normal rate of capitalization in valuing common stocks. In the case of oil companies, a rate of 9.45% might be used with a considerable degree of success since the deviation from this rate was only .56%. But in the case of steel and iron a normal rate of 11.64% would give very poor results,

TABLE III. AVERAGE DEVIATION OF CAPITALIZATION RATES FROM NORMAL

Petroleum	.56%	Department Stores	2.25%
Tobacco	1.16%	Automobiles	2.27%
All Groups	1.42%	Chain Stores	3.26%
Mail Order Houses	2.07%	Steel and Iron	4.29%

because of the fact that the average deviation amounted to 4.29%. But even the magnitude of the average deviation does not tell the entire story. In the case of steel and iron companies, the average deviation was 4.29%, while the change in rate from 1922 to 1923 was 10.7%. Thus a rate of 11.64%, while normal for the steel and iron industry over the period of 1922-1925, would have been entirely too high in 1922 and too low in 1923. Even for tobacco stocks, which showed an average deviation from normal of only 1.16%, the change in rate decreased from 13.74% in 1922 to 9.68% the following year. Similar changes are noted for most of the groups. A rate computed for a given year would seem to be more likely to give satisfactory results than any rate obtained by averaging several yearly rates. But even then due allowance would have to be made for the various factors which tend to make a particular stock a greater or less risk than the estimated risk for that industry. Any blind capitalization of earnings is unlikely to give satisfactory results, even though earnings are capitalized at a rate which is normal for the industry at *that* time. About all that can be done is to use the rate as a starting point from which due allowance must be made for the various factors which tend to decrease or increase the risk involved in the particular stock under consideration.

One of the greatest difficulties is in deciding just what factors do tend to increase or decrease the risk. No set rules can be followed. It is generally considered that newness, the influence of style, the common stock equity, prominence in the industry, and a host of other factors affect the risk involved in a particular company. The stock of a company just entering an industry is not likely to be capitalized on as low a percentage basis as that of some well established firm which has been in the industry for a long time. But even this does not always hold true. The newcomer may have bright prospects for the future which will be reflected in its present selling price. The market may be capitalizing remote future earnings rather than current earnings. The relationship between stocks and bonds in a company's financial structure will also have its effect on the value of the company's common stock. The more bonds there are, the greater will be the proportionate per share earnings during a period of prosperity, while the less will be the proportion during a period of depression. Such facts have to be considered. The difficulty is in giving due weight to these facts. No set rules can be laid down. Each case must be decided on its own merits.

Just as there are numerous factors which affect the risk from time to time for a particular company within a given industry, so there are those which affect the industry from time to time. Here again, considerable difficulty is encountered and no set rules can be laid down. Style changes, money rates, speculative activity, the newness of the industry, business conditions, and a host of other factors all exert an influence on the market's estimate of the risk involved in different industries. A comparison of the rates of capitalization with speculative activity, money rates, and general business conditions shows no relationships between the two. Nevertheless, it is fairly certain

that all these factors tend to affect the rates of capitalization.

One observation probably worthy of comment is that rates of capitalization for a particular industry tend to be lower when that industry is in a period of depression than in normal times. At first glance one would expect rates to be high and thus reflect doubt as to the future of the industry. But in reality what actually takes place is that stock prices do not fall in proportion to per share earnings. Thus the rate of capitalization is lower. When per share earnings show marked improvement over the preceding year, stock prices do not increase in proportion and this causes the rate of capitalization to rise. As a result, there seems to be a tendency for high capitalization rates to prevail during more normal times and low rates during depression. An explanation is that during a period of depression stocks are discounting future earnings and are not selling on the basis of present earnings.

In line with this tendency toward low rates during depression, one would expect year to year changes in the rates of capitalization to be greatest in those industries subject to extreme fluctuations in earnings. During the period 1922-1925, earnings in the steel and iron industry were subject to wide fluctuations, and it will be noticed that the deviation from normal was greatest for this group of stocks. In the case of chain stores and department stores, the deviation was likewise great, but this is accounted for by an entirely different set of facts, which will be mentioned shortly.

If these two groups are omitted, it will be noticed that the next greatest deviation from normal was for the automobile stocks. A glance at Table II reveals the fact that the greatest change in rate was in 1924, a period of declining profits. The deviation was also considerable for mail order houses, a business which is also subject to rather wide fluctuations of earnings. For tobacco and petroleum stocks the deviation was small. From this it would seem to appear that the greatest fluctuations in rates of capitalization are to be found in those industries which are subject to considerable variations in profits.

An interesting observation to be drawn from a study of Table II is the fact that the rate of capitalization in the case of chain stores has shown a steady downward trend. From a rate of 17.80% in 1922 chain stores have shown a steady decline to 8.69% in 1925. This may be taken as indicative of two influences. The first of these is that the market has become accustomed to chain store stocks and is no longer regarding the industry as a new enterprise. The second is that the future outlook for chain stores has been considered as increasingly encouraging. To a slightly less extent, the same factors may be looked upon as influencing the decrease in the rate of capitalization for department stores. The steady decrease in rates resulting from these factors accounts for the considerable deviation in the normal rate of capitalization.

Conclusions

While it is difficult to draw definite conclusions from a study of this kind, certain general observations can be made. It is hardly necessary to comment on the rates of capitalization as between industries. These rates appear in Table I and are self-explanatory evidence of the market's estimate of the normal and average rates of

capitalization over the four-year period for the particular group of stocks. These rates vary from year to year, tending to decrease as profits decrease. Furthermore, the variations are greatest in industries subject to extreme fluctuations in earnings. In conclusion, it can only be reiterated that it is doubtful if any normal rate of capitalization of earnings can be computed by averaging several yearly rates and used in valuing common stocks with any degree of success. On the other hand, a yearly rate can be computed and used as a starting point in valuing common stocks.

But even then, it is absolutely necessary to make due allowance for numerous factors which tend to influence the value of a particular stock.

CASE STUDIES IN BUSINESS

DEPARTMENT-STORE EXPANSION

AT THIS time one of the most interesting questions confronting the larger department stores of the United States is the issue: How shall the department store expand? Many stores have tried to answer the problem in a variety of ways, but none of their answers is entirely satisfactory. The following cases on Gabler and Company and on the Bishopthorpe Company indicate the peculiar problems two stores have had to face and the considerations entering into their decisions.

GABLER AND COMPANY

Gabler and Company operated a departmentized specialty store that was well located in the retail shopping area of a city of over 1,000,000. The sales volume, which was growing steadily, was about $3,000,000 in 1925. The store carried medium- and high-grade merchandise that appealed to well-to-do shoppers. In the fall of 1925, the officers of the company decided to establish a branch store about three miles from the main store in a suburban trading center. This venture could be financed easily out of the funds of the company. The plan of having a branch store within the city arose out of the belief of the president of the company that the increasing traffic congestion soon would create a need for departmentized specialty stores in the less-congested areas. The ratio of passenger automobiles to the population of the state was 1 to 8, and was rising rapidly. In the streets of the retail shopping area, parking was prohibited. Since comparatively few automobiles were driven by chauffeurs, and since many were driven by women, the president considered that many women would welcome a departmentized specialty store where traffic was light and where cars could be parked near the store. The president was of the opinion, furthermore, that if retail firms already established did not soon start branch stores in suburban trading centers, new companies would be organized to secure this business. As a result, in a few years, a company with a store only in the central retail district might lose the patronage of many people living in the outlying districts of the city. Therefore, the president wanted Gabler and Company to be among the first to establish a branch store, in order that it might gain a strong competitive position with respect to the trade of that considerable number of women who, he anticipated, would change their buying habits.

Wharton Center, the location chosen for the branch, was selected mainly for two reasons. It was already a well-developed convenience-goods trading center, and several highways leading to the better residential sections converged at this point. Although Gabler and Company had no record of customers by places of residence, the management knew that a substantial part of its clientele lived in sections near Wharton Center or drove their automobiles through Wharton Center from outlying communities. The traffic and parking problem in Wharton Center was not serious in comparison with downtown areas. In fact, since the city council had

provided special parking facilities at Wharton Center, many people had already begun the practice of parking their cars there and then riding by elevated train to the main shopping district which could be reached thus in about 12 minutes. At that time there were no shopping-goods stores at Wharton Center. There were drug, grocery, and furnishings stores, one shoe store, a florist, restaurants, and several doctors' and dentists' offices.

The treasurer of Gabler and Company opposed the establishment of the branch store. He pointed out that more than half the merchandise sold by the company was shopping goods, that some of it was specialty goods, and that the only convenience goods sold were some of the lines in the hosiery and toilet-goods departments. He thought, therefore, that his company could not expect a profitable sales volume at Wharton Center. Although he recognized the fact that there were a number of women who, if they had confidence in a store, would come to it in preference to shopping, he believed that such women were a negligible minority. The shopping habit was strong, and if most women continued to shop in the central retail districts, the branch store would be competing with the parent store. In other words, the treasurer believed that most of the business which the company might develop at the branch store could be secured in the main store without the additional overhead expense of the branch. It was also his opinion that even if the branch could build up a considerable volume of business, the expenses of operation would make the venture unprofitable. Furthermore, he did not believe that traffic and parking difficulties would increase to such an extent that women would abandon metropolitan shopping in large enough numbers to justify the establishment of shopping- and specialty-goods stores in districts outside the main retail shopping center.

The president thought that the company could establish a branch, which in a few years would have a sales volume of about $250,000 a year and which could be operated at a profit. Upon investigation it was found that a store could be leased for 10 years for an average rent of $7,500 a year. This store was one of several on the ground floor of a new fire-proof, 10-story structure to be used for offices and apartments. The building was well located and pleasing in appearance. Because the rental charge was much lower than he had anticipated, the treasurer finally became more favorably impressed with the possibility of profitable operation of the branch store. He realized also that if one or two other department or specialty stores established branches at Wharton Center, these branches would help the business of the Gabler and Company branch store. This belief was strengthened by the experience of Gabler and Company with a branch store which had been operated successfully since its opening in 1923 in Hollins, a suburb 13 miles from the center of the city where there were two colleges for women. The college students formed a majority of the customers.

The volume of sales at the Hollins store had increased definitely when a second departmentized specialty shop had opened a branch in Hollins about a year and a half after the establishment of the Gabler and Company branch.

The departments in the main store of Gabler and Company were as follows:

Women's suits
Women's coats
Women's dresses
Fur scarfs

Fur coats
Sweaters, waists, skirts
Millinery
Neckwear
Moderate-priced dresses
Silk underwear
Alterations
Misses' coats
Misses' dresses
Misses' suits
Hosiery
Men's ties
Gloves
Hand bags
Jewelry and novelties
Handkerchiefs
Negligees
Brassieres
Cotton underwear
Luggage
Infants'
Umbrellas
Fur remodeling
Toilet goods
Children's
Juniors'
Fur storage
Slips
Glove silk underwear

The departments in the company's branch store at Hollins were the same as in the main store except that the branch did not have men's ties, fur storage, and fur remodeling departments, and did not make alterations; the glove, luggage, and umbrella departments were small in the Hollins branch. Departments in the Wharton Center branch were to be the same as in the Hollins branch. The president anticipated large sales at the new branch in the following departments: women's coats, dresses, silk underwear, hosiery, toilet goods, children's and juniors'.

Because of the difference in the class of customers and in the distance from the shopping center, the company's experience with the Hollins store furnished no reliable basis for estimating the profitability of the proposed branch at Wharton Center. The experience at Hollins was of value, however, in respect to the problems of management and control. It was planned to operate the Wharton Center store in substantially the same way as the Hollins branch, although the store at Wharton Center would be twice as large.

At Hollins there were three sales women and a manager; the new branch would probably require five sales women. The Hollins manager had complete charge of most functions affecting her store. She selected all merchandise, choosing it from the departments in the main store, which were her only sources. When merchandise was taken from a department, it was credited to that department at both cost and retail. The record of sales at the branch was kept in separate ledgers. The branch manager set stock quotas and undertook to keep adequate assortments of merchandise on hand, although practically no reserve stock was maintained at the branch. The branch stock records were kept entirely separate from those of the main store. Credit was granted through the main office, but the branch manager could use her judgment in allowing small charge sales; the bills were sent out from the central office. Delivery service at the branch was separate from that of the main store, but was only a small item of expense since customers generally carried their purchases with them.

Special sales events were seldom held at the branch. When stock moved slowly, it was either returned to the main store or sold by means of "promotion," a term used to designate slight price reductions without great advertising emphasis on the mark-downs. The manager believed that she could not afford to stress mark-downs or price

advantages, because such sales promotion methods would cause customers to think of comparing prices with those of other stores and, consequently, would send them to the main shopping center. The stock was selected carefully. The manager estimated merchandise returns to the main store to be less than 10% of net sales.

Although the manager of the Hollins store realized the differences between her store and the proposed Wharton Center branch, she believed that the new branch would be a profitable venture. In her opinion, an appreciable number of women bought many articles in one store without shopping if they had confidence in that store. At the main branch it was planned to sell medium- and high-grade merchandise, selected for its good taste and style, such as would appeal to the average well-to-do customer. The Hollins manager suggested that when the branch store had gained a reputation for well-selected and well-priced merchandise in comparison with the average departmentized specialty store, there were three reasons why women would buy there: (1) many women would buy shopping goods without shopping because they trusted their own judgment; (2) women could dress informally and drive their cars to the door of the store; (3) less energy would be required to make purchases at a small store located outside the congested shopping areas than to shop in the crowded central retail district.

The Hollins branch was decorated similarly to the main store. The similarity aided customers who were familiar with one of the stores to feel at ease when first visiting the other store. When the new branch was ready to be opened, the management planned to advertise it in newspapers and to circularize all residents in the district about Wharton Center.

Commentary

There are some important considerations that really gave Gabler and Company a good basis for considering the advisability of establishing a branch store in Wharton Center. Women like a store where they are able to shop in informal dress. Less energy is required to get to the store than to go downtown. Shoppers can drive up to the special parking areas in Wharton Center or even up to the store, since, as compared to the downtown district, traffic is not congested and the parking problem is not serious.

A small store offers the advantages of informality. The departments are close together; each salesperson can sell all lines of merchandise. Even though some advantages in sales specialization are lost, a customer may well buy more articles than if she were in a large departmentized store, where it is inconvenient to shift from one department to another and where continuity of sales effort is broken.

The competitive situation is a factor that must be considered. There is an advantage in getting established in the better locations of the suburban center before competitors decide to establish themselves there, in order that a strong competitive position may be had with respect to the trade of those who would change their buying habits. In addition, the branch will act as a service station for customers of the main store.

The cheap rental is an important factor, since it would cut the operating expenses of the branch considerably.

A well-located branch with attractive window displays possesses advertising value of great importance. At present

people living in the vicinity of Wharton Center go to the central shopping district thinking of Gabler and Company, if at all, only as one of a number. With a Gabler and Company branch in Wharton Center, many residents in that vicinity may think of going to the downtown store while shopping in the main retail center.

On the other hand, this branch is bound to compete somewhat with the main store and to hurt its sales. The main factor, however, that outweighs all other considerations, is the fact that Gabler and Company is taking to a convenience-goods location shopping goods on which women will wish to compare prices before making a purchase. A woman will not consider another subway ride downtown as a deterring item, for, when she contemplates a large purchase, she wants to compare prices to see if values are better at one store than at another. As a result, a store developing a shopping-goods clientele will have a hard time making a success.[1]

The store might be made a success, however, by putting it on a specialty basis. Only the very best items would be sold, in order to create such a confidence in the minds of the consumer that merchandise will be bought without comparison of values. Even this policy will be hard to work out, because, since he will take the cream of the main-store merchandise, the selector of merchandise of the branch will be at odds with the main-store buyers. He will also return the unsold merchandise for main-store buyers to dispose of, since he cannot take any mark-downs if he wishes to keep up the reputation of the store.

These tentative conclusions are somewhat dependent on the future course of traffic conditions. If traffic conditions steadily get worse, there may be more value to such a branch. If such a condition occurs, there is no security that there will not be traffic jams at Wharton Center. No matter what the course of traffic conditions, however, it must be remembered that women are becoming more and more accustomed to using the cities' transportation facilities in order to go downtown, rather than to bother with the automobile in congested traffic.

Bishopthorpe Company

The Bishopthorpe Company, one of the largest department stores in Chicago, established a branch in Milwaukee on October 1, 1922. The company planned to open branches in other adjacent cities beginning May 1, 1923, provided favorable results were shown by the Milwaukee branch during the first six months of its operation. Several of the directors of the company were of the opinion that expansion of sales in the main store beyond a certain point would be likely to result in diminishing returns. In support of the branch-store project, it was urged that management expenses and some other indirect charges of the business as a whole might not be increased proportionately to the

[1] In 1925 Sears, Roebuck and Company opened several retail stores. All the merchandise offered in the stores was on sale at the same prices through the regular mail-order channels. In March, 1926, there were eight Sears, Roebuck and Company stores in operation, five located in the mail-order houses, one each at Chicago, Kansas City, Philadelphia, Dallas, and Seattle; and three stores located away from the branch warehouses, two of which were at Chicago and one at Evansville. All the stores located away from the branch warehouses in March, 1926, had been operating less than four months.

These stores, located away from the other shopping-goods stores of Chicago, seem to constitute an exception to the statement made in the discussion of the case. In reality, they are hardly comparable to the Gabler and Company case, since they are run on a specialty basis from the viewpoint of price.

volume of sales. Furthermore, from the standpoint of service, it was pointed out that the branch would enable out-of-town customers to make purchases with a minimum of effort and that it might help secure new customers for the main store.

The branch store in Milwaukee was on the second floor of a building located in the shopping district, and its personnel consisted of a manager and four salespersons. Women's garments constituted the bulk of the sales. Coats, suits, dresses, skirts, and waists were carried in stock. In addition, orders were taken from samples for hosiery, undermuslins, neckwear, novelty jewelry, and other accessories.[2] These goods were sent to customers by mail directly from the Chicago store. The branch advertised regularly in the local newspapers.

The outside-selling division of the Bishopthorpe Company was responsible for the management of the Milwaukee branch. The outside-selling division had charge of the mail-order department, the camp department, which specialized in outfits for summer campers, the agencies established in summer resorts, and the college department, which sent sales representatives periodically to women's colleges. Stocks carried at the Milwaukee branch were under the supervision of an executive of the outside-selling division known as the selector. The selector chose garments from the departments of the main store to be consigned to the Milwaukee branch at retail prices. No merchandise was bought especially for the branch store. From piece records and daily reports, the selector was able to keep an exact record of the garments in stock at the branch.

During the first six months the sales of the Milwaukee branch amounted to approximately $85,000, $10,000 in excess of the planned figure. These sales were credited to the departments in the main store which had consigned the goods. Likewise, the expenses of the branch were prorated to the consigning departments on the basis of net sales volume. The exact effect of the sales expenses of the branch on the departments in the main store was not readily apparent, because those sales and expenses constituted only small proportions of the departmental totals. In 1922 net sales of the Bishopthorpe Company amounted to more than $30,000,000. The various items of expense in the Milwaukee branch showed the following ratio to the net sales of the branch:

Salaries of manager and salespersons, and part of the salaries of the manager and selector of the outside-selling division	7.3%
Rent	3.9
Advertising	3.6
Traveling	1.4
Communication	0.8
Supplies	0.6
Depreciation of fixtures	1.2
Insurance	0.3
Miscellaneous	1.5
Total	20.6%

There were some difficulties in the way of determining exactly the amount of net profit shown by the Milwaukee

[2] As to sale by sample, Section 16 of the Uniform Sales Law provides: . . . . In the case of a contract to sell or a sale by sample:

(*a*) There is an implied warranty that the bulk shall correspond to the sample in quality.

(*b*) There is an implied warranty that the buyer shall have a reasonable opportunity of comparing the bulk with the sample, except as otherwise provided in Section 47 (3).

(*c*) If the seller is a dealer in goods of that kind, there is an implied warranty that the goods shall be free from any defects rendering them unmerchantable which would not be apparent on reasonable examination of the sample.

branch. No part of the buying and management expense of the main-store departments consigning merchandise to the branch had been included in the expense of operating the branch, because there appeared to be no basis of proration for these expenses other than a purely arbitrary one. It is not easy, furthermore, to obtain accurate figures for the gross margin of the branch. It had been thought inadvisable to charge garments to the branch at cost, since they were carried at retail prices in the main-store departments. In addition, merchandise sold from sample could not be charged to the branch at cost without an excessive cost of paper work.

Buyers in the main-store departments which consigned garments to the Milwaukee branch complained in some cases that they lost sales by not having sufficiently complete stocks. They complained that the selector for the outside-selling division picked the best-selling styles to the detriment of the remaining stocks. Another source of complaint on the part of these buyers was that unsold garments were returned from the Milwaukee branch in poor condition or too late in the season to be sold in the main store by means of substantial price reductions.

Commentary

The Bishopthorpe Company was in a position where it wished to expand, but it was hindered from increasing its location area because it feared that the store would run into diminishing returns. On account of traffic congestion, it is almost impossible to sell above the twelfth floor and, ordinarily, not above the tenth floor. High rentals bar horizontal expansion. The store wanted to establish the branch as a part of its main-store expansion program; such a move, however, presents a different problem from that of locating branches in different parts of the city because of traffic conditions downtown, such as confronted Gabler and Company in the previous case. Even in that case, however, there was the idea of expanding to get additional sales.

A branch of this kind affords several advantages, such as advertising for the main store, decrease in the proportion of direct overhead to sales, and service to customers.

Still it is very difficult to have one man do all the buying for the whole store and to departmentize the merchandise, since he cannot merchandise effectively all the departments. On the other hand, if merchandise is taken from the main store, there arises the difficulty of control now experienced by the company, and the difficulty of ascertaining which merchandise is profitable. Also there will be constant friction between the selector of merchandise for the branch and the buyers for the main store, since only the best of the merchandise will be selected, and all unsold merchandise returned to the main store where, because of the lateness of the season or the poor condition of the merchandise, substantial mark-downs must be taken. Another deterring factor is the impossibility of determining a net profit for the branch, because of the arbitrary proration of expenses and the difficulty of determining gross margin.

Because of these difficulties, the value of such a branch is questionable, unless real advertising value can be shown.

Department-Store Expansion[3]

These two cases bring up the whole

[3] Part of the material in this section is taken from a thesis by Henry Wyzanski, student at the Harvard Graduate School of Business Administration, February, 1925.

question of department-store expansion. If a store wishes to continue to grow and expand, the capacity of the store becomes inadequate after a certain length of time. On the other hand, because of the limitation in volume of shopping trade, and because of the rivalry of large department stores, competition in the retail trade is very severe. Thus an individual store must be ready to adopt the most progressive ideas if it is merely to hold its own in the procession. If it attempts considerable expansion, it must be willing to face difficult problems.

Expansion of the building vertically is almost impossible, since the higher the building, the greater the congestion of customers flowing in and out of the store and between the various floors. The overtaxing of the elevator service and the increasing expenses of transportation quickly bring the store to the point of diminishing returns.

Increasing the amount of floor space by extending the store over a larger ground area is next to impossible, unless it means purchase and annexation of an already established competing organization. Costs of buying a store outright and the rents of urban sites suitable for department stores are too exorbitant to permit expansion in this direction.

The expenses of large department stores have been increasing enough, through the increased services they have to offer, without being forced to add higher rentals and internal transportation costs. Some idea of the expenses, gross margin, and net profit of department stores with sales of one million and over may be gained from the following table compiled from *Bulletin No. 57, Operating Expenses in Department Stores in 1925,* by the Bureau of Business Research of Harvard University.

COMPARATIVE OPERATING EXPENSES, GROSS MARGIN, AND NET PROFIT IN DEPARTMENT STORES WITH NET SALES OVER $1,000,000

(*Net sales=100%*)

Year	1922	1923	1924	1925	1926
Number of firms reporting	151	163	168	183	163
Total expense	28.6%	28.4%	30.1%	29.9%	30.3%
Gross margin	32.0	32.0	32.1	32.2	32.6
Net profit	3.4	3.6	2.0	2.3	2.3

This table shows that department-store expenses have gone up during the last two years for which information is available, and that this increase has cut the net profit of the stores.

Stores which have endeavored to build up a mail-order business have been forced to carry separate stocks under a different merchandise manager and organization. There is a distinct limit to the expansion of this kind of business, because the mail-order departments soon come into competition with mail-order houses. The wider experience and better methods of the latter cannot fail to react unfavorably upon the department store.

Vertical combination, which involves the consolidation into a single corporation of a business engaged in various steps from the production of the raw material to the distribution of the final product among consumers, would necessitate the management of several manufacturing and wholesale businesses by a retail specialist. Several large department stores, such as Marshall Field, of Chicago, and John Wanamaker, of Philadelphia and New York, have been successful in this plan, but these are not comparable to the average large department store, since they have the advantage of catering to unusually large metropolitan populations. Policies, therefore, which have proved successful with them, could not always be applied successfully to the typical department store of the country.

The only remaining chance for expansion is by horizontal combination. This policy would effect expansion by buying out established stores and placing them under central ownership. Such combinations have failed to provide one of the great advantages of chain stores, namely, large-scale central buying, since there are differences in the needs of stores. Styles, for instance, are taken up in different regions at different times. It is also almost impossible to obtain strong centralized control of merchandising, since in shopping centers prices of competitors must be met promptly and surplus stocks of seasonal style merchandise must be disposed of at reduced prices. The management of each store is generally decentralized, and only the major policies are laid down by the centralized ownership

Some very important advantages have developed from horizontal combinations which have proved to be very beneficial. The stores in the combination have been enabled to interchange store figures, although the benefits may be somewhat vitiated by the lack of a basis for comparison. Increased resources have enabled better executives to be employed and have permitted a shift of personnel from one store to another. Application of successfully proved methods to the same departments or similar departments in other stores is made possible. By virtue of the greater risk-bearing ability, consolidations are able to make greater physical improvements in their buildings than can the individual store. Thus, better service to customers can be given.

Several corporations, such as the May Company and R. H. Macy, have expanded by means of horizontal combination. Other smaller combinations indicate the tendency at present for department stores to extend their activities by buying going concerns. At the present time, the department-store field seems to be at the crest of a wave of department-store consolidations, caused more by investment bankers trying to create securities to absorb plentiful easy money than by the prospective economies from joint operation. Although there are some pitfalls and many advantages in horizontal combinations, it is as yet too early to say whether the new consolidations have been successful and whether horizontal combination is the most logical method of future expansion.

LEASING VERSUS INSTALMENT SALES IN THE MARKETING OF MANUFACTURERS' EQUIPMENT

THIS study will consider the problem of a company manufacturing plant equipment, which finds its present market of short-term credit customers limited, and is seeking a sound method whereby its market may be broadened to include other customers who can purchase only on long credit terms. Producers of costly equipment often meet a barrier to the extension of their sales in the inability or unwillingness of many desirable potential customers to enter into short-time commitments. Frequently customers are unable or do not wish to reduce quickly their working capital to purchase new equipment, nor do they desire to borrow for this purpose. Banks discourage equipment

loans because they are likely to become frozen when funds are needed. Inasmuch as banks are not equipped to repossess machinery and quickly dispose of it in the second-hand market, the risk is relatively high.

The equipment producing companies are in a better position to assume the risks involved in granting long-term credit on their products, since they have an established market through which they can dispose of repossessed goods, they have knowledge of and confidence in the merits of their goods, and they are spurred on by the motive of a profit on sales. They are confronted by the problem of devising a sound method for extending credit to long-term credit customers, which will induce the additional sales volume desired without sacrificing security. In some cases, peculiar conditions exist which render a system of leased equipment feasible; in other cases the extension of instalment credit terms to customers may be a sound merchandising method.

Problem of the Dodds Company

The Dodds Company, of Bridgeport, Connecticut, was incorporated in 1897 as the consolidation of five partnerships which had been engaged in manufacturing various types of textile machinery. The oldest of these, William Dodds and Sons, had been formed in 1860. The new corporation manufactured looms, warpers, twisters, spoolers, bobbins, shuttles, rings, and temples. Its most important product, however, was an automatic loom, invented about 1895, which was completely protected by patents. While for the ordinary loom one tender was necessary to care for from four to six looms, the automatic loom enabled one operative to handle a much larger number, since the bobbins were replaced in the shuttles automatically and the end of the thread was run through the eye of the shuttle in a fraction of a second. Because the automatic loom ran more smoothly than the ordinary type, there were fewer breaks in the yarn.

While the other products were relatively less expensive, many textile mills had difficulty in financing purchases of looms, the orders for which ranged from $50,000 to $500,000. To meet this problem it became necessary for the Dodds Company to determine upon what credit terms it should sell automatic looms. About 1900, a period of rapid expansion commenced in the cotton manufacturing industry, especially in the South. The market for the looms consequently consisted of equipment for new mills and replacements for established mills, of which the first field offered the better opportunities. However, since the bonds of many of the new mills did not command a good market even when their sale was expedient, the mills were unable to finance such large purchases except through the sale of stock. In this situation, the custom had developed among manufacturers of textile machinery of accepting the capital stock of newly organized mills at paid-in value in payment for machinery purchases.

While, until 1915, the Dodds Company had financed sales involving a credit period of over 18 months in conformance with this custom, a change was then contemplated for three reasons. First, losses had been incurred through the acceptance of textile mill stock. Second, the company believed the period of rapid expansion in the textile industry was over. Third, it was probable that the number of sales had been restricted because the company hesitated to accept the stock of many

new mills in return for machinery. The problem of the Dodds Company was, therefore, to substitute a method for granting long-term credit with minimum risk.

Alternative Plans

Two plans were considered. Under the first, which was similar to that employed by the United Shoe Machinery Corporation, the Dodds Company would lease machines to the mills for a specified monthly rental, retaining absolute title to them permanently. It would maintain a corps of inspectors to supervise installations, to keep the looms in repair, and to instruct mills in proper usage. It would have the right to substitute new and improved machinery for old looms; the rental for the substituted equipment would not be higher than for that removed, however, unless the cost of the new types was much higher.

Under the second plan, the looms would be paid for by means of a series of equal monthly instalments extending over a period of from 3 to 5 years. It would be possible in most states to employ a conditional sales contract by which title would be vested in the Dodds Company until full payment had been made. The interest would be calculated for each month on the balances remaining unpaid and the total interest thus computed would be added to the principal and the total sum spread over the credit period. On an order for $60,000 where credit would be extended for 5 years, for example, interest would be paid on $60,000 for 1 month, on $59,000 for 2 months, and on $1,000 for 60 months. The total interest would be added to $60,000, the principal, and the total so obtained divided by 60, the number of months in the credit period, to yield the amount to be collected monthly.

Similarities of the Plans

Under either plan, the Dodds Company would incur relatively little risk since the life of the looms was 30 years at a minimum, and depreciation was slow. Instalment payments would be completed within 5 years, one-sixth of the minimum life of the equipment; the Dodds Company would retain title and could repossess looms on which payments had been defaulted, if it were doubtful that the customer could extricate himself from his difficulties. Under the leasing plan, if a mill failed to pay its rental in a reasonable time, the company could remove the machines. The expense of removing such installations, however, would be high.

It was expected that sales could be increased materially by showing prospective customers the economies the looms effected under one plan, by offering deferred payment terms beyond the period in which the looms might be expected to pay for themselves, or, under the leasing plan, by comparing such savings on installations with the cost of leasing the equipment. Both plans would facilitate the booking of orders for periods of over a year in advance, a distinct advantage where large orders are received, as in the case of looms. If instalment selling were adopted, payments would not commence until one month after the machinery was installed in the factory. Leasing called for payment only on those machines in actual use. Either alternative would thus permit the company to maintain a cushion of unfilled orders which would tend to counteract the effects of depressions in the textile industry. Inasmuch as installations could be made at any time within a period of from 6 to 12 months, the company would be enabled to adjust its manufacturing

schedule. Since a larger volume of production would be made possible by increased sales, the total economies in the manufacturing processes would result in greater profits to Dodds without raising prices to customers. Either the buyer on deferred terms or the lessee might obtain, at no great added cost for credit, risk, and administrative expenses, the advantage of immediate use of equipment which he could not buy outright. Certain decided advantages were thus common to both plans.

Advantages of Leasing

By leasing the looms, the company would be able to maintain better control over its market. While it possessed no monopoly, patent protection was strong and the complexity of the looms made possible many further improvements, substitution of which, under a leasing system, would permit the Dodds Company to derive continued benefit. The lawyers of the company believed there were no legal obstacles to the successful operation of leasing. In addition to controlling the advances in technique, the reputation of the company's products would be assured by supervision of repair and use of the machinery exercised by company inspectors. Rentals would be set sufficiently high to compensate for this service as well as for depreciation.

Objections to Leasing

Since a large amount of capital would be required if the company were permanently to finance all machinery manufactured, the company would need to seek additional funds through the sale of securities, since such long-time requirements could not well be financed through banks or in the open market. Because the market for industrial bonds was poor and the sale of bonds would undesirably weaken the position of the company, a stock issue would be necessary; not only would this prove expensive, but it might jeopardize the control of the Dodds Company, which was a closely held corporation. With heavy capital and supervisory expenses, leasing would prove more expensive than instalment selling.

The Dodds Company held no such position in the field of textile machinery as the United Shoe Machinery Corporation possessed in the shoe industry. The latter sold its customers practically all their requirements of equipment and supplies and could conveniently and effectually collect its lease charges. The Dodds Company had no manner of effectively exerting control over its customers, who did not buy all their equipment from it and were under no compulsion to do so. A further objection was the attitude of the prominent mill owners, who, so far as their opinion had been canvassed, were hostile to a system of leased equipment. For the most part they were men of larger means than shoe manufacturers and preferred to buy rather than rent machinery. Two results were thus likely to ensue from the adoption of leasing: the stronger and more influential customers would be lost to competitors willing to accommodate them, and small and relatively uneconomical producers would be encouraged to enter the industry and thus bring on detrimental competition. The company would also incur ill will from the lessees, who would be induced in times of rising prices and prosperity to engage in business because of the relative ease with which equipment might be obtained and who were likely to be caught with insufficient strength on the down-swing.

Where the company is operating in a strongly competitive field, where the better grade of customers oppose such a selling device, and where it is likely to encourage overexpansion among the weaker manufacturers, the probabilities are that leasing would be unsuccessful.

Advantages of Instalment Selling

The justification for selling looms on the instalment plan is the fact that they save their cost to the purchaser during a small part of their useful life and within the time when instalment payments would be completed. Accountants for the company had found, by examination of the cost records of mills which had purchased automatic looms, that savings made over manufacturing with the ordinary type of loom paid for the new equipment in a maximum period of four years in the case of grey goods mills and in a shorter time in the case of others.

Not only would expenses be less under instalment selling than under leasing with the latter's large service department, but the amount of capital required would be much smaller since the machinery would be carried for only a few years rather than permanently. While the payment under the instalment contract would not be evidenced by notes and would not be acceptable for discount at banks, the Dodds Company had never borrowed from banks either directly or by discounting paper, and the officers did not think that it would be necessary to do so in the future, since they felt the company would be able to carry the payments through a period of depression. They might resort to established finance companies for assistance, in case the executives felt that the resources of the company were being unduly taxed through demands for credit. In that event, the conservative nature of their credit operations was likely to secure for them a cordial welcome and reasonable treatment. Since it was improbable that instalments would become burdensome, if credit were wisely extended in the first instance, danger was not anticipated in that direction.

Instalment credit would prove valuable to the Dodds Company in ironing out depressions in sales, which are especially extensive in such producers' goods. More liberal credit would be granted when sales tended to slacken, for example, and while credit losses would quite probably be larger as the result of less stringent requirements, certain and probably larger losses in inventory, through falling prices, and in plant operation, through idleness following a decline in orders received, could be avoided. Such a policy should not prove injurious to Dodds customers, for it is sound to enlarge and improve a plant during a period of depression when prices and costs are lowest and when it is safer to lay future plans. Such flexibility could not be secured under a system of leasing, for the use of long-period contracts prevented the company from making frequent changes in the rental of machines in order to attract more customers and to correspond with changes in external business conditions. There was also a possibility that manufacturing economies might be achieved as the result of larger sales volume, and subsequent reduced prices might compensate customers for the higher cost to them made necessary by the expenses connected with the extension of credit.

Disadvantages of Instalment Selling

Instalment selling would involve the danger of overextended sales, which might subsequently induce excess pro-

ductive capacity in the industry, although the danger is still greater when machinery is leased. Where poorer credit risks are assumed and customers later fail to make payments, repossessions might become necessary; these would be undesirable, even where the margin between the value of the repossessed equipment and the balance due the company on the looms was sufficient to protect the Dodds Company against loss. Not only would the expense of moving unwieldy equipment be heavy, but ill will toward the company would result, and a market containing a plethora of used machinery would make the sale of new equipment extremely difficult.

These evils occur, however, only where credit has been extended too liberally and where production has expanded so rapidly that the company must exert pressure to force its goods out on the market. A careful credit policy would limit the sale of looms on long terms of credit to those whose standing warranted such consideration and would avoid the danger of a saturated market as a result of indiscriminate sales. The evils frequently spoken of pertain to unwise instalment selling and not to instalment selling *per se*; for suitable articles and under sound restrictions, the extension of instalment credit is a thoroughly justifiable merchandising method.

Decision and Commentary

The Dodds Company decided to adopt instalment selling, since it was less expensive than leasing, did not involve undue risk in view of the permanence of the looms, and since it possessed these advantages without being open to the objections of the other alternative. Instalment selling was most likely to succeed and involved fewer changes from the status quo.

No evil is inherent in offering credit terms to stimulate sales, although there are avenues through which undesirable effects may result. Where leasing is possible, it provides a volume of business with slight added risk and facilitates the collection of payments and the proper protection of the product and future improvements which may be developed. Hence it is peculiarly adapted to the sale of complicated installations, where constant supervision protects the reputation of the company's product and educates its customers to the proper use of technical equipment. It is a method which demands thorough patent protection and a strong grip on the market, usually secured by a virtual monopoly on the manufacture of the machinery, and often of the supplies for them as well. It is consequently inadvisable where the manufacturer must meet vigorous competition. Leasing tends inevitably toward excess productive capacity with attendant evils of severe price competition in the industry obliged to lease, since it permits persons of very restricted capital to engage in business.

The length of the instalment terms is the peculiar feature distinguishing the problem of the Dodds Company from the average situation. The fact that the looms deteriorate very slowly under proper care and have a life of well over 30 years, however, makes the risk of carrying the credit for a period of up to 5 years relatively low. It is probable, for example, that more risk would be encountered in financing motor truck sales for a period of 18 months, for within that time hard usage often renders the resale value of a truck such that it might not cover the amount still outstanding in notes due.

Instalment selling is applicable to the marketing of many expensive producers' goods. Machinery and equipment, such as automatic looms, where the original cost is high, where depreciation is relatively slow, and where the resale value is considerable, are well adapted to this method, especially where, as in the case of the looms of the Dodds Company, the purchase pays for itself through increased efficiency, production, or economy. Customers find such goods essential for the best operation of their business and are unlikely to stop short of complete ownership. Where the utility of the goods is doubtful or of short duration, as where the goods are consumed before the extinction of the instalment debt upon them, customers are more likely to default. No matter what the legal and other protections against loss may be, defaults and subsequent repossessions are harmful; they injure the reputation of the company and the good-will existing toward it and, through the accession of used goods to the market, sales of new goods are hindered.

Instalment selling is not a device which should be adopted indiscriminately to increase sales; such artificial stimulus reaches a limit beyond which the market does not respond and is likely to result in overproduction. By extending credit wisely during a period of depressed sales, however, it is possible to stabilize the market and prevent operating losses, although usually a sacrifice must be made in the shape of higher credit losses.

The regard for credit standing is growing in the business community, and credit information is available concerning firms in many lines of business, such as the textile industry, in a form sufficiently complete and accurate. Customers can, therefore, be carefully investigated and their ability to pay for purchases from current income can be estimated. Ordinarily, the initial payment on goods sold is made sufficiently large to give the owner a substantial equity which he is unlikely to relinquish; but Dodds, in order to secure flexibility in making installations, did not plan to require any payment until a month after installation. Commercial users are less likely to be betrayed into rash purchases than individual consumers, for they can more clearly foresee the usefulness of the contemplated purchase to them and their ability to meet the necessary payments as they fall due. Rightly used, instalment credit is a device which will increase the profits on many expensive and durable producers' goods by widening the market to include worthy customers needing long terms of payment.

THE MANUFACTURERS' AGENT AS A CHANNEL OF DISTRIBUTION

THE selection of suitable and available channels of distribution is a problem constantly faced by manufacturers. It is the purpose of this study to indicate some of the conditions under which the employment of a manufacturers' agent offers the best solution to this problem. Three cases are presented, in which are analyzed the advantages and disadvantages accruing from the use of the manufacturers' agent under the conditions set forth. It

is proposed to limit the scope of the article to deal only with the manufacturers' agent who does not buy or sell on his own account, does not extend or guarantee credit, and usually does not carry stocks. He obtains orders for the manufacturer; the latter makes shipments direct to the customer and receives payment from him, paying the agent a commission. Agents usually insist on fairly long agreements with their principals, in order to assure themselves of a fair share in the benefits accruing from their sales efforts. Under this definition, the agent is a substitute for the manufacturer's own sales force and does not replace the wholesaler nor perform his functions.

Lane Equipment Company[1]

In 1918 the Lane Equipment Company, manufacturer of railway equipment, decided to enter the eastern market with its brake levers and lever connections for use on freight and passenger rolling stock. Previously the company had sold its products chiefly in the Middle West. Compared with other brake levers on the market, the Lane brake lever was stated to be 50% stiffer and 30% lighter. The prices at which the brake lever was sold to railroads ranged from $1.50 to $2.10, according to size. The lever connections were sold for $2.05 each.

In New England the S. K. Thomas Company was the principal distributor of railroad equipment. That company already carried a full line of railroad accessories and equipment, including levers and connections made by other manufacturers. Inasmuch as the S. K. Thomas Company did not believe that there could be many immediate sales of Lane equipment, it was not willing to undertake introduction of the new line.

The Lane Equipment Company could send one of its own salesmen into the territory to sell directly to the railroad companies, but the cost at the start would be approximately 50% of the selling price. Although the salesman would devote his entire time to introducing these products, it was realized that his lack of established relationships in the territory would handicap him. The company estimated that, under such a plan, sales in New England probably would be made at a loss for years.

Another possibility was for the company to make a contract with a manufacturers' agent. It was ascertained that a suitable man was available, who was willing to undertake the development of the market for the Lane Equipment Company's products, if granted an exclusive agency for New England for 10 years and a 10% commission on sales.

The company's problem, therefore, was whether to sign a 10-year contract with the agent to sell its brake levers and connections, or to place one of its own salesmen in the New England territory.

Commentary

The significant facts in this case are the following: The company was manufacturing and selling accessory equipment of low unit price. Individual orders were likely to be large. The number of potential purchasers was small. These purchasers could be expected to buy only at infrequent intervals. In introducing this equipment, furthermore, it would be necessary, ordinarily, to persuade the prospective customer to change his preference from some other type of equipment already in use to that which was offered by the Lane Equipment Company. The fact that it was necessary to effect this

[1] *Harvard Business Reports*, Vol. III, p. 34.

change in preference made the problem different from that of a company introducing a product which would not displace or replace equipment already in use.

If the company had employed its own salesman for the New England district, the salesman would have concentrated his attention on securing orders for the company's product, whereas the manufacturers' agent had several lines over which to diversify his efforts. The advantage of concentrated attention from the company's salesman, however, would have been offset largely by the influence of the established relationships of the manufacturers' agent.

The influence of established relationships is of especial consequence in this case because of the small number of potential customers, each of whom might be expected eventually to purchase in large quantities. In order to induce potential customers to change their preference from a type of equipment already in use to the type offered by the Lane Equipment Company, a period of prolonged negotiations with the prospective customers would have been necessary. In carrying on such negotiations, it obviously would have been poor sales strategy for a salesman to have called on prospective customers at frequent intervals. With only a single line to offer and a restricted number of potential customers, it is doubtful if the market would have been sufficient in magnitude to have kept a salesman busy in selling the single line. On the other hand, the diversified line of the manufacturers' agent would have made it proper for him to call frequently on prospective purchasers of equipment such as that which the Lane Equipment Company was making. Thus opportunities would have been afforded for keeping the negotiations on Lane equipment active, without intrusively forcing the question on prospective customers before they were disposed to decide on the purchase.

The period of introductory negotiations was expected to cover several years, whether those negotiations were handled by the company's salesman or by the agent. The 10-year contract demanded by the agent, therefore, was not unreasonably long from the viewpoint of either party.

Under the circumstances, it appears that it would have been sounder policy for the company to have employed a manufacturers' agent rather than to have sent its salesman into this market.

The case serves chiefly to emphasize the necessity of providing for a period of negotiation in introducing a new make of accessory equipment which supplants a type already in use.

Ranier Manufacturing Company[2]

The Ranier Manufacturing Company, of Seattle, manufactures pumps to be attached to tanks or barrels for handling liquids, such as lubricating oils, gasoline, distillate, kerosene, turpentine, shellac, varnish, belting cement, vegetable oils, molasses, syrup, and flavoring extracts. The chief features of these pumps are a patented drip pan, which collects all drip and overflow, straining and returning this to the container; speed in pumping heavy liquids; prevention of evaporation; and special facilities to assure ease of adjustment and operation.

Four hundred fifty of these pumps had been installed by one railroad company. This railroad expended annually $700,000 for the purchase of lubricating oils. Prior to the installation of these pumps, the waste of oil through drippings had been figured at 5%. Most of this waste

[2] *Harvard Business Reports*, Vol. III, p. 32.

had been eliminated by the use of the pumps. The pump also had a market among retail merchants who sold oil and other liquids in bulk. Another market existed among farmers and shops that bought liquids in barrel lots.

The retail selling price of the pump was $20. To wholesalers it was sold for $12 and to retailers for $16.

The Ranier Manufacturing Company contemplated making arrangements for the sale of its pump in New England. Previously it had sold its output chiefly along the Pacific seaboard. The manufacturer would pay the freight charges to New England. It did not seem practicable to establish a wholesale sales branch at such a distance from the factory.

One means that was suggested for developing the market for this pump in New England was to grant an exclusive agency for the New England territory to a firm of hardware wholesalers in Boston. Another proposal was to arrange with a manufacturers' agent, who also represented several other manufacturers of related products, to sell the pump on commission to wholesale purchasers. It was expected that it would be necessary to pay such an agent 10% of his sales and to grant him a contract of several years' duration.

Commentary

Since the company had decided not to establish a sales branch in the New England market, a manufacturers' agent was to be preferred to a wholesale hardware firm as territorial representative. A typical wholesale hardware firm would have provided distribution to hardware retailers and small shops, but its sales organization and methods would not have been effective in reaching railroads and other large industrial companies. A manufacturers' agent, with only a few lines to sell, could have utilized more aggressive sales methods for this product than would have been consistent with the methods of a typical wholesale firm. The manufacturers' agent would take the place of a manufacturer's sales branch and could be expected to secure orders from railroad companies, large industrial companies, and supply wholesalers, and to utilize the services of several hardware wholesalers for reaching scattered retailers.

Inasmuch as the product was of a type of accessory equipment for which it was not necessary for the manufacturer to provide engineering and designing service, supervision of installation, or repair service, a manufacturers' agent could have been used as a substitute for a sales branch in a distant territory.

Stetlow-Carroll Company[3]

The Stetlow-Carroll Company manufactured grinding machines in a wide variety of types, ranging in selling price from $1,500 to $15,000 each. The company listed its grinding machines with manufacturers' agents operating in districts where there was a general demand for machinery of this type. The sales agents sold for the Stetlow-Carroll Company's account and received commissions on their sales. In 1923 the sales manager of the company proposed that the policy should be changed and that sales should be made directly to users of the machines through salesmen employed by the company. The sales manager had reached the conclusion that the sales agents were not obtaining an adequate proportion of the total orders placed for such equipment and were not fully developing the potential demand.

[3] *Harvard Business Reports*, Vol. III, p. 37.

He was convinced also that the reputation of the company suffered in some instances because the wrong type of machine was sold through incorrect recommendations to purchasers.

The company's machines were designed to grind all kinds of metal, rubber, glass, marble, and other materials. Sales were made principally to manufacturers of automobile parts, tools, and other metal articles.

The agent through whom the company was selling its machines did not handle competing products. In order to secure a satisfactory volume of sales, a sales agent usually sold about 30 lines of tools and accessories. His interests, therefore, were so divided that he was not thoroughly familiar with the Stetlow-Carroll Company's machines and with the operations for which the various machines could advantageously be utilized. Although the company maintained a small force of traveling demonstrators, who assisted in selling the machines and in supervising their installation, it was possible for these demonstrators to reach only a relatively small number of potential purchasers.

On account of the large investment involved, each purchaser expected the machines to be efficient in operation. That result could not be assured, unless the proper type of machine was recommended in accordance with each purchaser's requirements. The grinding machines embodied complicated mechanisms and required careful installation and well-trained mechanics to operate and maintain them. Each machine ordinarily could be adapted for several purposes by the addition of one or more special parts.

The sales manager recommended that, if the company ceased distributing through selling agents, one or more of its own salesmen should be placed in each important market for its machines in the United States. These markets included New York, Philadelphia, Detroit, Cleveland, Pittsburgh, and Boston. It was estimated that before he began to solicit orders each new salesman should spend from six months to a year in the factory, in order to acquire familiarity with the construction and performance of each machine. Then one or more of these salesmen would be assigned to each of the company's sales offices, which would be established in the large markets, to interview potential purchasers. When a prospective customer required recommendations regarding the type of machine to purchase, the salesman would be able to submit a dependable opinion, and after a sale had been made the salesman would supervise the installation of the machine. Thereafter, the company could maintain relationships with the user through the salesman, and complaints could be adjusted promptly.

The company decided that the expense of maintaining the suggested sales offices would be more than offset by the increased volume of sales to be secured by direct solicitation. It was apprehended, furthermore, that under the existing plan, much of the correspondence pertaining to complaints probably never reached the company from the selling agents.

Since the selling agents had made efforts over a period of years to build up clienteles to which they could sell grinding machines, the substitution of direct selling methods by the company was expected to create ill feeling, and might result in the company's representatives' finding it difficult to approach customers who had had satisfactory business relations with the agents. On the other hand, there were instances in which the purchasers were dissatisfied, because the

agents had recommended the wrong machines and had failed to give sufficient supervision and instruction during their installation.

The direct sales plan would not alter appreciably the amount of credit granted by the company or the terms of sale. It was possible that, with complete control of the solicitation of orders, a small reduction might be made in the losses from bad debts.

Inasmuch as the company assembled and shipped machines only after orders were received, the district offices would not have to carry stocks of machines. They would carry stocks of repair parts, however.

The decision of the Stetlow-Carroll Company was to establish sales offices in all districts where there appeared to be a potential demand for its machines adequate to permit economical operation of the offices. A few selling agents were retained for securing orders in agricultural districts in the South and West, where the number of possible customers was small and where the demand for grinding machines could not be increased substantially by direct sales efforts.

Commentary

The market for this company's products, as for many other installations, was well defined; it was not difficult to ascertain the identity of potential users of such machinery. The market also was largely concentrated in a few industrial districts. Each purchase was made for a definite purpose and required a substantial investment. In order to effect sales and to assure the degree of satisfaction among customers which was necessary for maintaining and enhancing the reputation of the company and its products, the specific requirements of each prospective purchaser needed careful study. After a machine had been installed, furthermore, it was desirable that its operation should be observed by a representative of the company which had sold it, in order to make sure that its performance was satisfactory. These services, in studying specific requirements and in inspecting the machinery when installed, could be provided more satisfactorily when the company employed its own salesmen than when the sales were entrusted to agents selling numerous other products.

The Stetlow-Carroll Company apparently had attained a scale of operations large enough to warrant the adoption of a direct sales plan. The chief disadvantage in supplanting the sales agents by the company's own salesmen lay in the difficulties which would be encountered in establishing relationships expeditiously with prospective customers. Repeat sales on installations are made only at infrequent intervals, and the preparatory negotiations which precede each sale usually extend over a long period. The agents had negotiations under way, which it was by no means certain the company's salesmen could pick up at the point where the agent's salesmen would drop them. A temporary curtailment of sales, therefore, was likely to be experienced.

Conclusions

From the foregoing cases it appears that the employment of a manufacturers' agent is justified where the products to be distributed require more aggressive sales effort than can be expected from a wholesaler, and where it is not deemed feasible to undergo the expense of maintaining a sales force or factory branches. These conditions are likely to be encountered in the distribution of accessory equipment for industrial purposes.

The agency arrangement is often found suitable for the introduction of a new product, or for entrance into a new market by a manufacturer with distribution already established in other territories. In such cases it may be regarded as a form of pioneer distribution to give way to the manufacturer's selling force or to factory branches after adequate distribution has been built up. Of course, in a region of meager market potentialities the pioneer period may be of long duration.

Although a manufacturer can be assured that the sales of his product will be pushed more aggressively by a manufacturers' agent than by a wholesaler, it should not be forgotten that an agent will not equal the manufacturer's own selling organization in this regard. Consequently the agency distribution is not so well adapted to products that require extremely specialized sales effort together with highly technical service and instruction.

The manufacturers' agent can solidify and strengthen his position if he is wise enough to select, for his line, products so related as to appeal in general to the same type of customers. By so doing he can reduce the number of unproductive calls and can, at the same time, increase the number of calls on any customer that can be made without causing annoyance.

SHALL WE BUY THIS NEW MACHINE?

THIS is a question which constantly confronts nearly every manufacturing company. Here is a machine that is slow; here another on which the cost of repairs and replacement parts brought on by long service seem prohibitive. Again, a keen-eyed representative calls attention to a new machine which is so efficient as to make the present equipment seem like the proverbial tortoise.

Each case hinges on so many factors which seem peculiar to the particular situation that it will have all the appearance of a special case. Each case undoubtedly is special, in the sense that there is no rule of thumb or formula which can be applied with any real prospect of mechanically obtaining the proper answer. Nevertheless, there are a number of features in the situation which should be recognized and carefully considered, with the expectation that the conclusion reached will, by so much, prove more nearly satisfactory.

There follows a case in which consideration is given to the replacement of a machine definitely worn out, but where the problem hinges about the type of machine to be purchased.

Halgren Company

When an engine lathe in the factory of the Halgren Company became worn out, the question arose as to whether it should be replaced with another engine lathe or with an automatic turret lathe. A new engine lathe similar to the one that had been purchased in 1911 would cost approximately $2,000, while a new automatic turret lathe could be purchased for $3,500. The life of each machine was estimated to be 10 years, under an assumed production of 300 working days each year.

The new engine lathe could be expected to turn out work at the same

speed as the one now in use. Including set-up time between lots of 25 parts each, this speed was one lot in two days. This speed was just sufficient to maintain production at capacity on an eight-hour day. Setting-up time would approximate four hours, whether the work was done on an engine lathe or on an automatic turret lathe.

A new automatic turret lathe would occupy no more floor space than would an engine lathe, and could be expected to turn out work more rapidly. Operators received 50 cents per part for work on the engine lathe. The greater speed of the automatic would enable operators to make the same wage at a per piece cost of 30 cents for operators' wages, exclusive of set-up time. Set-up time was paid for at the same rate as running time.

While the automatic turret lathe would enable the company to turn out the work more economically, the executives hesitated to substitute the automatic machine for the engine lathe because the average production of the factory was only 80% of capacity. Since the automatic machine represented a greater outlay of capital, the economies effected would at least have to balance original cost.

The following comparisons were made in order to determine relative merit:

	Per Part
Turret lathe operator's wages while running	30 cents
Additional wages paid for set-up	12.5 cents
Total labor cost for turret lathe	42.5 cents
Piece price on engine lathe, including set-up	50 cents
Saving on turret lathe	7.5 cents

Number of pieces required to make up the difference in capital cost of the machines

$$\frac{\$1,500}{.075} = 20,000.$$

Since the operator makes the same total wages on either machine, and
Since the piece-rate payment on the engine lathe is 50 cents, and
Since the piece-rate payment on the turret lathe is 42.5 cents

$$\text{Therefore,} \frac{50}{42.5} = 1.15,$$ or the speed ratio between machines

Then $1.15 \times 25 =$ number of pieces turned out by the automatic lathe in two days, or 28.75 pieces.

$28.75 \div 2 = 14.375$ turned out in one day.

Number of days required to make up the difference in capital cost is $\frac{20,000}{14.375} = 1391$

or, the saving per piece, 7.5 cents $\times$ 14.375, the number of pieces per day $= \$1.078$, the savings per day.

Then, $\frac{\$1,500}{1.078} = 1,391$ days.

But, the extra speed of the turret lathe renders it idle 15.2% of the time with capacity production, and
The calculated average production is 20% less than capacity, so that
$15.2 + 20 = 35.2\%$ would be the total idle time of the turret lathe, or
$100 - 35.2 = 64.8\%$ is the productive time of the turret lathe.
With 300 days in the year, then

$$\frac{1391}{.648 \times 300} = 7.2$$ years as the number required to make up the capital difference.

Assuming straight-line amortization, then 6% interest on $750, the average over-investment for the period of 7 years, would amount to $315.

Then, $\frac{\$315}{1.078} = 291$, the number of working days required to pay off the interest charge.

$$\frac{291}{300} = .97 \text{ years.}$$

$.97 + 7.2 = 8.17$ years as the time necessary for the automatic turret lathe to pay for its excess cost.

With an estimated length of life of only 10 years, 8 of which would have

been consumed in paying back the extra investment, the Halgren Company considered the installation of the automatic turret lathe to be unprofitable and purchased an engine lathe.

Comment

It should be noted that the computations of the Halgren Company were based on several conditions and assumptions.

First. The lathe to be purchased performs but one operation in a production line engaged on the manufacture of a single product. Consciously or unconsciously, the assumption has been made that that product will continue in manufacture for at least eight years with no changes in design or routing which will affect the work of this lathe. In fact, no change in the average rate of output has been considered. Extreme stability has been assumed for this particular product.

Second. It has been assumed that the idle time of the turret lathe occasioned by its greater rate of production will never be filled in, either by pulling up slow spots in the production line or by taking on or diverting existing or new products to it to take advantage of its greater efficiency.

Third. The Halgren Company has assumed a supply of labor of such adequacy as to make the reduction in man-hour requirement per unit of product of no measurable value. This latter assumption frequently is not true, and a reduction in labor per unit of product may be a very important consideration.

On the theory that any concern must grow to do no more than hold its place in the trade and survive, the assumption of a constant level of production seems to be either an unconscious admission of approaching failure or an implication that this particular line is dying. However, if the latter situation exists, then the possibility of utilizing the more efficient machine on other products should be considered.

When taking into account the competitive situation where another producer uses the turret lathe to capacity and the Halgren Company uses the engine lathe, a saving of nearly 3.5 cents per piece can be made on this one operation even when overhead for interest and amortization of the increased capital investment in the turret lathe has been considered.

While the difference in degree of skill or amount of training required of the operator is not pronounced for the machines in this case, this often may be a very important factor in determining the choice of machines to be installed. So also is the question of whether or not other industrial concerns in the vicinity use these machines in sufficient quantity to indicate a supply of previously trained operators.

The foregoing are not necessarily arguments to the effect that the decision taken was in error. Rather they are intended to indicate considerations which should not be overlooked when considering acquiring new machinery.

The Halgren Company was faced with the necessity of procuring a machine to replace one worn out in service. More often the case presented is that of voluntarily junking or displacing an existing machine or machines in order to install a new one which will take advantage of technical advances in the art of manufacture and show a cheaper unit production cost. In such circumstances the competitive situation is often a potent factor, since long strides of advance, if not met by the company, will permit competitors unhampered by obsolete machinery to enter the field at

a profit. Such a situation is exemplified in the following case.

Sayce Electrical Company

A salesman of the Hovey Machine Company brought the Hovey turret lathe to the attention of the machine-tool expert of the Sayce Electrical Company. The Sayce Electrical Company was using a turret lathe that performed the finishing operation on triple valves in 10 minutes. The salesman stated that a Hovey turret lathe, because of its greater speed and high quality tools, could perform the operation in 6 minutes, a saving of 4 minutes per piece. Allowing $600 as the second-hand sales value of the old machine, he estimated that a Hovey turret lathe would earn 62.9% of its net cost within a year. His calculations were as follows:

Hovey turret lathe, with standard tools, cost	$2,179	
Second-hand cash value of old machine discarded	600	
Making an added investment in machine and standard tools of	$1,579	
Special tools cost	433	
Total added investment	$2,012	
The Hovey turret lathe production per day of 9 hours, using 48-minute hours, to be conservative, was $\frac{48 \times 9}{6} = 72$ pieces.		
The saving per day would be 72 pieces × 4 minutes, or 4.8 hours. With labor at 60 cents, and factory overhead at 90 cents per labor hour, 4.8 × $1.50, is $7.20.		
The saving per year would be $7.20 × 280, or	$2,016	
From this must be deducted total cost of special tools during the first year	$433	
and 20% depreciation on additional investment in new machine and standard tools, or 20% of $1,579	316	749
Net saving or earning on investment		$1,267

The earning power of the additional investment in Hovey equipment was $1,267 (the net saving) / $2,012 (the additional investment) or 62.9%

The machine-tool expert of the Sayce Electrical Company questioned the basis of this calculation and considered the analysis incorrect in three places:

1. Allowance was made only for depreciation, whereas interest, taxes, repairs, and insurance also were costs that were deductible from the estimated earnings of the machine.

2. Depreciation had been computed on the basis of the "added investment" rather than on the basis of the actual cost of the new machine plus its standard tools. The fact had been overlooked that the sale of the old machine for $600 would necessitate a debit to cash and a credit to equipment and, consequently, could not count in addition as a credit to the new machine. The new machine, therefore, should be depreciated on the basis of its actual cost—$2,179.

3. The saving per piece was computed on the basis of the total rather than on the additional production of the new machine. Since the output of the new machine was estimated to be

$$\frac{48 \times 9}{6},$$

or 72 pieces, and that of the old machine to be $\frac{48 \times 9}{10}$, or 43.2 pieces, the saving was represented by the 28.8 additional pieces produced. Inasmuch as each piece required 6 minutes, the time gained was $\frac{28.8 \times 6}{60}$, or 2.88 hours, which, at $1.50 per hour, was a saving of $4.32 rather than $7.20 per day.

Comment

This case, with its widely differing results, shows the difficulty of an accurate determination of the real savings to be effected by any new machine. A great difference exists in this case even after assumptions have been made to the effect that there is ample work on this one operation to fill the Hovey machine, and that no other additions to the production line and no idle time on parallel machinery is involved. Actual conditions to fulfil these assumptions would be rare, and the absence of such conditions would further complicate the problem.

In the case of the Sayce Electrical Company, if competition is keen the reduction in unit cost reaches proportions which may not let it be ignored.

Unfortunately for the manufacturer, technical advances in machine tools and equipment frequently take the form of expensive single-purpose or special machinery where the resale value in the event of abandonment is very low. In such a situation conservatism dictates that a clear path to early amortization of the special machinery should lie before the purchaser, lest he find himself on the next forward stride in the art compelled to jettison a large unamortized portion of his previous installation.

Each case is special; nevertheless, the foregoing case should point out for consideration certain important factors which bear on nearly all cases and which should not be overlooked in reaching a decision as to the purchase of a new machine.

HARLOW SHOE COMPANY

THE purpose of this article is to analyze the policies of a relatively small shoe company in New England which, although very successful in the past, has been encountering difficulties since the World War.

The Harlow Shoe Company was founded in 1885 and manufactured medium and high-grade dress shoes at the factory at Kent, Massachusetts, a town of about 2,000 inhabitants in the Brockton district. A profitable business was established and maintained, due largely to the managing ability of its founder, Mr. Harlow, and to the good labor situation at the plant.

In 1915 the company expanded by renting a factory at Medford, Maine, and setting up therein the manufacture of work shoes. These shoes were not sold under the regular Harlow brands until 1923.

The company refused to accept war orders during the World War, but focused its attention on the domestic market. This policy aided its sales materially. In 1920 and 1921, since Mr. Harlow refused to lower his prices and take his inventory losses during the period of falling prices, the company lost the market advantages it had gained during the war. The sales of the company continued to fall off after this period and in 1924 a small deficit was encountered that continually increased through 1925 and the first quarter of 1926.

Mr. Harlow remained in active control of affairs until the end of 1925, when he died. The control of the com-

pany was carried on by the trustees of his estate. One of them, who was an executive of the company and a nephew of Mr. Harlow, was put in charge of the business.

The factory at Kent had a maximum capacity of 500 dozen and a normal capacity of 250 dozen pairs of shoes a day. In 1926 this factory was operating on a schedule of 55 dozen pairs of shoes a day, with a 5-day week and a 50-week year. Notwithstanding this subnormal production, the charge of idle space was not a significant factor.

The factory at Medford had a maximum capacity of 200 dozen and a normal capacity of 100 dozen pairs a day. In 1926 it was operating at normal capacity, with a 5½-day week and a 50-week year.

The labor situation in Maine was considered better than that in Kent. The latter town was in the area of the high-quality shoe manufacturing district of Massachusetts, and the skilled labor in the vicinity was strongly unionized. There had been one serious labor dispute, which had been settled satisfactorily.

The company distributed its product directly to chain stores, department stores, independent shoe stores, dry-goods stores, and general-merchandise stores. The chain stores and the department store buying groups took one-quarter of the Kent factory's output and one-half of the output of the Medford factory. They were not constant customers and their accounts had a fairly rapid turnover. Four specialty salesmen sold to these two classes of customers, who were not considered profitable selling accounts, because they were able to buy at practically the manufacturing cost. Special dealer brands were placed on these shoes.

The company had a selling force of 22 regular salesmen, who were assigned to definite territories covering the whole country without serious overlapping. They sold to customers other than chain stores and buying groups and were under the direction of the president's assistant who had charge of sales.

The company maintained two factory retail stores, one in Boston and one in New Orleans, the managers of which were responsible directly to the executives of the Harlow Shoe Company.

An analysis of the sales of the company in the past brought to light the following facts. In the first place, the sales of shoes bearing the company's brands had been the most profitable. The company had five different brands, three of which were produced at the factory at Kent. These brands sold at the factory in a price range of from $6 a pair to $5 a pair for the high-quality shoes produced at the Kent factory, and from $4.50 a pair to $3.50 a pair for the shoes made at the Medford plant. Second, it was discovered that 80% of the total sales to customers other than chain stores and buying groups were made in towns having a population of less than 25,000.

The discount policies of the company were significant. The chain stores and department store buying groups were given a 15% discount and a 5% discount for cash. Ten large-city exclusive agents who featured Harlow shoes were given a 12% discount. A 1% cash discount for payment within 30 days was allowed, and it was common practice to give 2% discount if payment was made within 10 days. The "regular trade" was given only the cash discounts last described above.

The large independent retail dealers demanded a 5% cash discount, which was the custom in the trade and was given by competitors. The Harlow Shoe

Company had consistently refused to grant this discount.

The advertising policy of the company had been changed in 1923. Prior to this date, advertisements were placed in magazines having a wide distribution, such as the *Saturday Evening Post* and the *World's Work*. After 1923, consumer advertising was dropped and trade journals were used exclusively.

The administrative organization of the company was located at the Kent factory. The assistant of the president supervised advertising policies, the sales office, and sales management. The general factory superintendent bought the necessary raw materials and supervised the factory operation.

The designing department was in charge of a vice-president of the company. He was 65 years old and had been with the company for 40 years. He was extremely conservative and his policy had been constantly to improve old designs rather than create new ones. During the last few years, the specialty salesmen had been allowed considerable freedom in originating their own designs.

Comment

One of the first issues facing the Harlow Shoe Company is the question of contracting the scope of its operations by cutting out the Medford factory. It is true that this factory is running at normal capacity while the one at Kent is still below normal, but the continued operation of the Medford plant is encumbered with several difficulties.

In the first place, competition in low-quality shoes is extremely keen and it would be difficult to make a large margin of profit in this line. The rise of the shoe industry in the Middle West has been largely through the manufacture of this class of goods, and the situation respecting raw materials, labor, and distribution of product is distinctly favorable to that locality. In the Medford plant the company has a relatively small producing unit poorly situated, making a product that cannot well be sold in competition with middle western shoes.

The distribution policy of the Harlow Shoe Company is based on direct selling, with the company's salesmen carrying samples around to the various customers. In order to meet competition which is prevalent in high-quality shoes, and also to increase its prestige, the Harlow Shoe Company is continually endeavoring to obtain as exclusive retail outlets as possible. A retail store of this class in a large city will rarely desire to carry a line of work shoes. The Harlow Shoe Company is handicapped by trying to have its salesmen straddle the issue. The company desires to have its high-quality shoes pushed more actively, and the present procedure is cutting into the sales of the work shoes. The fact that the salesmen are also endeavoring to sell work shoes hinders to some extent the sale of the high-quality shoes which the company wishes to emphasize. Therefore, it would probably be advisable for the Harlow Shoe Company to give up the Medford factory and concentrate its attention on the high-quality shoes manufactured at the Kent plant.

Style plays an extremely important part in high-quality shoes. The sales analysis has shown that the greatest demand has been in style "lines" ordered by the customer. A style shoe, furthermore, can earn a larger margin of profit than a standard shoe. It can also be pushed more aggressively, thus aiding in competition.

The Harlow Shoe Company is a relatively small one, and for this reason it can adapt itself more easily to changing its production schedule.

If the Harlow Shoe Company is to be put on a profitable basis, it should gradually attempt to manufacture high-quality style shoes based on orders obtained from the salesmen exclusively.

The company is well fitted to undertake such a program. Its labor force is highly skilled and it can obtain additional machinery on a royalty basis. From a production standpoint, therefore, the company can manufacture high-quality style shoes.

The salesmen are in direct contact with the retailer and are able to give the company exact advice as to the styles and as to retailers' desires. The latter have been buying on a hand-to-mouth basis since 1921. If the Harlow Shoe Company manufactures primarily for stock instead of on order, there is danger that it will be caught with an unsalable inventory of raw materials and finished shoes if the market demand changes. This danger is accentuated by the style element. For this reason, the company should manufacture on customers' orders as much as possible and endeavor to secure sufficient orders in one style to enable the production department to put the work through in economical manufacturing lots.

A small company manufacturing a specialty directly for the consumer is able to give a service that a larger and more standardized company is unable to provide, and such a small company has an economic justification in any industry and a competitive advantage in this particular line over its larger competitors.

The economic need for the Harlow Shoe Company to manufacture a style shoe of high quality on consumers' orders and to distribute the shoes directly to the consumer has been pointed out. This situation calls for close control over the sales force and for a connecting link between the sales and manufacturing departments, so that all suggestions received from the salesmen and the designing department can be analyzed to determine whether they can be economically manufactured, and also to expedite the deliveries of the finished shoes. In this manner, the company would be able to obtain a competitive advantage through providing the special services which have been enumerated above.

Since the present head of the sales department has too many duties, he cannot direct the sales force and fulfill the function of a connecting link between the sales and manufacturing departments in a satisfactory manner. He is constantly required to turn his attention to matters of relatively unimportant routine arising from his position as assistant to the president and the managing head of the sales office. Therefore, the Harlow Shoe Company should secure a sales manager, whose duties are separate and distinct, and who can control the sales force and supervise the styles. He should be in close contact with the designing department, comparing the results obtained by this department with the suggestions of the salesmen, analyzing them with the general superintendent, in order to determine the feasibility of economical manufacture.

The sales manager also should keep an accurate record of style developments and changes, so that the manufacturing department will not pile up large inventories of styles which may soon be unpopular; and in order to balance the hand-to-mouth policy of the retailers with the necessity for economical manufacturing lots.

The designing department, in accordance with the policy of emphasizing style, should be in extremely close con-

tact with the sales force and should aim to further the development of new styles rather than merely to improve existing ones.

The general sales policy of the Harlow Shoe Company should be revised. It has been found that there are two main classes of customers, the chain stores and department store buying groups, and retailers in towns with a population of under 25,000. Neither of these two classes appears to be an outlet that will be profitable in the future. The members of the former class buy approximately at the manufacturing cost, owing to their large orders and the keen price competition existing in this field, and they are undesirable customers in other ways. The second class is not entirely suitable for high-quality shoes and does not give the promise of "repeat orders" that come from large cities.

At the present time, there are only 10 exclusive agencies in large cities. This field is one that the Harlow Shoe Company should actively exploit, for high-grade stores in large cities are extremely favorable outlets for high-quality style shoes, and the repeat orders which would emanate from this source would enable the company to go a long way toward manufacturing in economical lots. Furthermore, these outlets would serve the company as excellent sources of information regarding style trends. Therefore, a gradual shift should be made away from chain stores, department store buying groups, and retailers in small towns toward retailers in large cities.

The Harlow Shoe Company should use its four specialty salesmen to develop this field actively, the regular sales force being shifted gradually toward this policy.

The company can use its two retail stores in Boston and New Orleans as style laboratories to aid in the policy outlined above.

There has been one serious difficulty in the past in the development of large-city outlets; namely, the discount policy of the company. The regular custom of the trade is a 5% discount for cash, and the Harlow Shoe Company has been granting a cash discount of only 1%. The large-city retailers have refused to handle Harlow shoes because of this policy, and the only retailers who could be made to accept it were those in the small towns. Therefore, in order actively to develop its business in the large cities, the Harlow Shoe Company should adopt the policy of granting a 5% cash discount.

Summary

The company should adopt the principle of manufacturing a high-quality style shoe on customer's orders. It can be easily adapted to follow this policy, which would give it both an economic justification and a competitive advantage in the shoe industry.

There is great need for a close connection between the sales, the designing, and the manufacturing departments in making a shoe based on style.

The sales force should be supervised by a competent sales manager.

The company should endeavor to sell its high-quality style product in selected retail outlets in relatively large cities, both to keep in as close touch as possible with style developments, and to secure repeat orders which will enable it to manufacture styles in economical lots and counteract the tendency for short runs which is the result of the present hand-to-mouth buying policy of the retailers.

In order to develop the large-city

field and to secure the cooperation of the high-grade retailers, the company must grant the discounts which are the custom of the trade. The company cannot gain much by cutting the accustomed discounts, and the retailers in large cities will not handle Harlow shoes if this is done.

A PROBLEM IN CASH DISCOUNT

THE National Manufacturing Company, located in New England, manufactures and sells specialty steel products to hardware jobbers throughout the United States. The terms of sale are "f.o.b. factory, full freight allowed." Goods sold on these terms are shipped freight collect. A single-price policy is adhered to, regardless of the location of the buyer and the amount of freight allowed. For orders under a fixed minimum, the selling price is increased somewhat, but the terms remain the same. For prompt payment the provision of "2% 10 days, net 30" is made on each invoice.

The Johnson and Cary Company, a firm of wholesalers located in Texas, in making payment within the cash discount period for an invoice based on the above terms, took the discount on the gross amount of the invoice, or on the gross price of the material. The invoice as rendered showed the charges for the goods as follows:

Material (itemized)	$1,000
Less freight allowed, 8,000 lb. @ $1.25 per 100 lb. (actual freight charge)...	100
	$ 900

The remittance made was $880, which was the net amount of the invoice, less 2% of $1,000.

When this remittance was received by the National Manufacturing Company, the credit manager wrote the Johnson and Cary Company stating that full credit would be allowed on the invoice in this instance, but requesting that all future discounts taken be based on the net amounts of invoices after freight had been deducted.

The treasurer of the Johnson and Cary Company took exception to this ruling. Correspondence, however, did not change the attitude of the National Manufacturing Company, nor did it convince the Johnson and Cary treasurer of the soundness of the National Company's position.

In order to get a more decisive ruling, the case was submitted by the Johnson and Cary Company to the wholesalers' association to which the firm belonged. The secretary of this association agreed with the Johnson and Cary Company, giving the following reasons:

1. The freight paid to the railroad for transportation of the goods is paid for the account of the National Manufacturing Company. Since the money is generally paid prior to the end of the cash discount period, the Johnson and Cary Company is entitled to the discount not allowed by the railroad, but which, plus the sum due the National Manufacturing Company, represents the total cost to the buyer for the goods. In other words, the gross amount is the price of the goods, and the price quoted by the National Manufacturing Company includes the freight allowance as

an item of expense similar to expense for labor or raw material. The fact that this expense is paid by the buyer to the railroad instead of directly to the vendor does not justify a reduction of the cash discount.

2. It is further claimed that the computation of cash discount on the basis of the net amount of the invoice puts a geographical discrimination against the buyer with the largest freight charges, although the price of the material itself is identical and the company professes to allow freight charges. The proof of each claim is based upon the fact that the purchaser who has the largest freight charge to deduct will have the smallest net amount to remit, and thus the smallest amount on which to base the cash discount. Cutting in half the freight charge shown in the previous example will illustrate.

Material	$1,000
Freight	50
	$ 950

On the net figure, the cash discount would be $19, which makes the total cost to the buyer, including freight, $981, while in the first case it would be $982. If the discount were taken on the gross figure, the amount paid would be the same in both cases, namely $980.

In reply to the above contentions, the credit manager of the National Manufacturing Company stated that the freight which is paid by the Johnson and Cary Company is for its own account and is an expense of that company, as are trucking and unloading. This expense for freight, however, which normally should be borne by the Johnson and Cary Company, is allowed by the National Manufacturing Company to strengthen the competitive position of the manufacturer in the customers' territory. The manner of making that allowance is not specifically stated and is to be determined by the seller. If the National Manufacturing Company, when rendering the invoice, elects to deduct the freight allowance at that time, the Johnson and Cary Company cannot object, there being nothing otherwise specified or implied in the terms of sale. Furthermore, the net amount of the invoice is the amount owed and at the end of thirty days would be the amount paid. It is for the prompt payment of that sum that the cash discount is offered.

Analysis

The problem is based on the taking of cash discounts, and a definition of that term is desirable. "Cash discount is a premium (not interest) allowed by the seller of merchandise to the buyer for payment of an invoice within a specified period, depending in time and amount on the terms of sale."[1] Since the definition states that the amount of the cash discount depends upon the terms of sale, the terms used should be defined. The words "f.o.b. shipping point" indicate that it is on the delivery of the merchandise to the carrier that the title to the goods passes to the buyer, who thereupon assumes all risks and contingencies of transportation, bears any insurance and demurrage charges, and takes it upon himself to bring claims for any shortage or damage that may occur.

The words "full freight allowed" indicate that the freight charges, which are the buyer's expense according to the first phrase, will be allowed. The manner of making that allowance is not

[1] Brewster, *Legal Aspects of Credit* (New York, Ronald Press Company), p. 243.

stated. The right to determine the manner of making that allowance is reserved to the seller and can be exercised in any way that does not conflict with the terms of sale and does not put an unreasonable burden on the buyer.

The terms "2% 10 days, net 30" are commonly interpreted as meaning that 2% of the amount of the invoice will be allowed if payment is made within 10 days and that the net amount is due in 30 days from the date of delivery of merchandise to the carrier. The manner of allowing the cash discount is not stated, but the universal interpretation of a cash discount in the business world in this case would be that the seller will accept 98% of the face of the invoice as full settlement if the buyer pays within ten days.

It seems clear that the goods belong to the buyer while in transit and when the freight charges are paid. The freight is an expense of the buyer, comparable to those of unloading and trucking, and it cannot accurately be said that it is paid for the seller's account. The seller has agreed to make an allowance, the effect of which is to refund this particular expense to the buyer. The method of allowing for freight charges by the seller, under the terms of sale, is discretionary with him. If he elects to make the allowance by deducting it from the gross price of the merchandise, and renders his invoice accordingly, he thereby determines the amount due him for the goods and the amount on which he will allow the cash discount for prompt payment.

If the goods were sold "f.o.b. destination, freight prepaid," terms frequently considered to be virtually the same as those above, the vendor would pay the freight, and the buyer would receive an invoice showing only the cost of the material. Thus the cash discount would be greater than if a freight allowance were made.

Goods sold f.o.b. destination remain the vendor's property until they are delivered to the buyer at destination. Therefore, the freight paid by the vendor is for his own account. These terms require a greater working capital than the former terms because freight charges are paid at the time of shipment, whereas under terms f.o.b. shipping point, freight charges are the buyer's expense, and are not allowed by the seller until payment is made for the goods.

Additional expense is incurred by selling f.o.b. destination because, the title to the goods remaining with the shipper while they are in transit, it is his responsibility to make claims for losses and damage while they are in the carrier's hands. By comparing the two methods of handling transportation charges, it is obvious that the concern selling f.o.b. destination not only incurs greater expense, but also allows greater cash discount than one selling f.o.b. shipping point. The amount due the seller is different in the latter case, and the cash discount should not be the same.

There is no question that there is a geographical discrimination in the application of the terms f.o.b. shipping point, freight allowed, when invoices are paid within the discount period. The vendor receives varying amounts for the same material, depending upon the buyer's location. The customer close at hand bears a certain burden of the freight allowed to the far-away customer. The total amount paid by each customer, except for the discrimination inherent in the cash discount, is the same, although varying proportions go to the railroad and to the seller.

Summary

Where merchandise is sold f.o.b. shipping point, freight allowed, and a cash discount for prompt payment is offered, the title passes to the buyer when the goods are delivered by the vendor to the carrier; subsequent risks and charges incidental to transportation are matters for settlement between the buyer and the carrier. The method of making allowance by the seller to the buyer for freight charges, in the absence of specific provision in the terms of sale, is optional with the seller, subject to the observance of justice and propriety toward the buyer. In the case of the National Manufacturing Company, the seller, exercising the discretion allowed him under the terms of sale, determined that the freight allowance should be taken when remittance was made for the goods, and rendered the invoice accordingly. It is on the amount remaining on the invoice after deducting the allowance that the cash discount should be based. There is no reasonable ground for exacting the discount on an amount greater than the sum the buyer is required to pay the seller under the terms of the sale agreement.

LEGAL DEVELOPMENTS SIGNIFICANT IN BUSINESS

SOME BUSINESS AND LEGAL ASPECTS OF RESALE PRICE MAINTENANCE[1]

WHEN the Supreme Court handed down its decision in the Beech-Nut case[2] it confronted business men with the proposition that effective resale price maintenance constituted an unlawful restriction of competition. From this it naturally followed that some of the practices aiding or likely to result in price maintenance could be enjoined. As early as 1911 the Supreme Court had decided that express contracts binding dealers to maintain stipulated resale prices were illegal.[3] Deprived of the use of express contracts business men soon realized that resale prices could be maintained by noncontractual means and, as a result, the policy was gradually adopted of requesting that a certain price be maintained and of refusing to deal with customers who failed to conform to this request. The courts have consistently upheld this practice on the grounds that it is the "undoubted right of the trader" to refuse to sell to whomever he pleases.[4] But in the Beech-Nut case the Supreme Court upheld the Federal Trade Commission in its contention that keeping a black list of price cutters, employing salesmen and agents to report price cutters, and utilizing symbols on goods so as to identify parties from whom goods were purchased at less than the stipulated resale price amounted to a combination in restraint of trade and therefore in violation of statute. Thus the Beech-Nut case completely altered the status of price maintenance, and while still adhering to the theory that the manufacturer could refuse to sell to price cutters, the court declared illegal various methods likely to be used by the trader in an attempt to maintain stipulated resale prices.

It is the purpose of this article to consider the manufacturer's reasons for desiring to maintain resale prices and the legal aspects of the question.

The Manufacturer's Viewpoint

In the case of branded goods the manufacturer has a direct interest in the price at which his product is retailed. Through advertising he attempts to establish a reputation of uniform quality and price for his product. In the determination of the price which he hopes to maintain he is forced through competition to establish a price which is commensurate with the quality of the product. But once having set the price on the basis of competition, he is anxious that his product compete thereafter on a basis of quality, and it is therefore to

[1] In the preparation of this article "Price Maintenance," by Melvin T. Copeland, *Harvard Business Review*, Vol. 4, p. 393, and "The Attitude of the Federal Courts toward Resale Price Maintenance since the Beech-Nut Decision," *Columbia Law Review*, Vol. 27, p. 183, were drawn upon extensively.

[2] *Federal Trade Commission* v. *Beech-Nut Packing Co.*, 257 U. S. 441, 42 Sup. Ct. 150 (1922).

[3] *Dr. Miles Medical Co.* v. *John D. Park & Sons Co.*, 220 U. S. 373, 31 Sup. Ct. 376 (1911).

[4] *U. S.* v. *Colgate & Co.*, 250 U. S. 300, 39 Sup. Ct. 465 (1919).

his interest that the established retail price be maintained. Price cutting on branded merchandise results in a disorganized market which works to the detriment of competing dealers and eventually to that of the manufacturer himself. Goodwill is undermined because the value of the product is lowered in the eyes of the public.

That price cutting on branded goods results in a disorganized market can hardly be denied. This is especially true in the case of convenience[5] goods, because widespread distribution is essential to the efficient marketing of goods of this class. Price cutting on branded goods differs from price cutting on unbranded goods. In the latter case total sales are likely to be increased, while in the case of branded goods aggregate sales are more generally reduced. A price reduction on unbranded goods will generally result in greater sales for the individual dealer at the expense of competing goods. This means greater aggregate sales for the manufacturer. But in the case of branded merchandise the price cutter increases his sales of the branded article primarily at the expense of other dealers who sell the same product and not at the expense of competing merchandise. Thus the manufacturer is faced with the problem of internal competition. Instead of having his product sold in competition with the merchandise of other manufacturers, he finds that the price cutter is merely capitalizing on the product's reputation in an attempt to increase his sales of other products. Price cutting causes other dealers to be disinclined to push the sale of the branded goods and in many instances the dealers will refuse to carry the product.

In order to avoid price cutting many large dealers have been forced to resort to the use of private brands. The dealer of a branded article, faced with the price cutting of a competitor, will develop his own brand of merchandise and refuse to carry the manufacturer's brand. By the development of his own brand the dealer can set his price on the basis of competition and sell at that price on the basis of a quality appeal. This development of private brands as an escape from predatory price cutting cuts into the manufacturer's sales. Thus, after an extensive advertising campaign in which the manufacturer has attempted to build up a reputation for his product, he often finds that price cutting on the branded article forces dealers to resort to the use of their own brands in an attempt to get away from predatory price cutting. Instead of being an asset, the brand reputation may be turned into a liability as a result of price cutting.

Aside from interfering with distribution channels, price cutting often has a disastrous effect on the reputation of the branded article. Through advertising the manufacturer endeavors to establish a reputation for his product at a fixed price and of a uniform quality. If he is successful in his endeavor, the public soon comes to attach a special significance to this uniform quality and price.

[5] "Convenience goods are those customarily purchased at easily accessible stores. Customers generally are familiar with articles of this type and readily determine what to purchase as soon as the wants are felt. For convenience goods the individual consumer usually desires the prompt satisfaction of the want; he cannot bide deferment. The unit prices for many articles in this class, furthermore, are too small to justify the consumer's going far out of his way or incurring the expense of a street-car fare in order to procure a particular brand. It is for such reasons as these that a product subject to this type of demand gains a large sales advantage when it is purveyed in numerous stores located at points easily accessible to consumers." Melvin T. Copeland, *Principles of Merchandising*, Chicago, A. W. Shaw Company, 1924, p. 28.

When the price is cut, there is likely to be a feeling that quality has also been reduced.

Price cutting also tends to convey the idea to the public that the margin of profit on the article is exorbitant. When a nationally advertised product is sold by a price cutter below actual cost, mainly as a means of attracting custom to his store, the public jumps to the conclusion that other dealers have been making an outrageously high profit on the article. It is not always realized that the price cutter is selling the branded goods below actual cost merely in order to make sales of high-margin merchandise. On the contrary, the public is more inclined to believe that other dealers have been realizing an exorbitant profit on the article and that it is not worth the advertised price. The effect of such predatory price cutting on the manufacturer's aggregate sales and the reputation which he has built for his product is evident.

A distinction should be made between various kinds of price cutting. Against legitimate price cutting—and by legitimate price cutting is meant a reduction in price commensurate with a particular dealer's operating economies—the manufacturer has no grounds for complaint. The distinction should be drawn between this kind of legitimate price cutting and predatory price cutting, which results in sales below actual cost in an effort to attract custom to the dealer's store. Predatory price cutting amounts to an attempt on the part of the dealer to capitalize on the manufacturer's goodwill by selling the branded article below cost, expecting thereby to attract customers to his place of business and thus making sales of other goods. But legitimate price cutting is price cutting which can be justified on the basis of a dealer's lower operating costs.

It is to predatory price cutting that the manufacturer objects, and it is this kind of price cutting which he seeks to eliminate by attempting to maintain resale prices. It is this kind of price cutting which undermines the market and destroys a product's reputation, not price cutting which can be justified on the basis of a dealer's lower operating costs. The manufacturer has little or no right to object to legitimate price cutting. Nor does he have a right to object to price cutting on the part of a dealer who is endeavoring to close out slow-moving stocks. If he does object he has no grounds for complaint, unless he has previously agreed with the dealer to buy back at a specified price all such slow-moving goods.

Summary of Manufacturer's Viewpoint

The manufacturer's desire to maintain resale prices can be summarized as an honest attempt, for the most part, to obtain maximum sales through complete distribution of his product. To compete with other goods he is forced to price his own product on the basis of competitive prices for the quality of goods produced, and once having set this price he is anxious that his goods compete on the basis of quality. Competition enters in when the goods are first priced. After the manufacturer has once set the price on the basis of competition, he has no further desire to prevent competition but rather to limit it to competition with other producers and thus avoid internal competition. His primary aim is to compete successfully with other manufacturers, and to do this he must first price his goods under competitive conditions and then avoid any internal competition growing out of predatory price cutting.

The Legal Aspect

Under the Sherman Act it has been held that regardless of their utility to the producer, contracts which bound dealers to maintain a stipulated resale price were illegal.[6] With the contract declared illegal it was found that business methods were sufficiently flexible to permit the maintenance of resale prices through noncontractual means. Manufacturers adopted the policy of selling only to those dealers who maintained resale prices. Such a policy was challenged, but it was held that it is the "undoubted right of the trader" to refuse to deal with a party for any reason whatever.[7] The mere fact that a resale price was urged by the manufacturer and that such price was generally maintained was deemed insufficient to warrant the inference that the Sherman Act was violated.[8] Nevertheless, it was held that combinations to maintain resale prices could be implied from a course of conduct.[9] Finally in the Beech-Nut case the Supreme Court declared illegal certain practices likely to eventuate in price maintenance.

The Beech-Nut Case

In the Beech-Nut case it was expressly stated that a trader does not violate the Sherman Act by simply refusing to sell his goods or by withholding them from those who do not sell them at the resale price he fixes; but he may not, by contracts or combinations, express or implied, unduly hinder or obstruct the free and natural flow of interstate commerce.[10] The court thus went on record as convinced of the fact that a contract binding a dealer to sell an article at a resale price stipulated by the manufacturer was a violation of the Sherman Act and could be enjoined. The power to order suppressed any plan of merchandising, in interstate trade, which would have a dangerous tendency unduly to hinder competition or to create monopoly was held to be vested in the Federal Trade Commission. The Federal Trade Commission was upheld in its contention that employing salesmen and agents to solicit the names of price cutters, keeping a black list of price cutters, and cooperating with dealers in securing the names of price cutters tended unduly to hinder competition and could therefore be enjoined.

The Beech-Nut case is significant in several respects. Although it was held that certain practices likely to lead to an undue hindrance of competition could be enjoined, the business community was left without any clear understanding of what could legally be done in an attempt to maintain resale prices. It was clearly stated that a manufacturer could not request loyal dealers to report the names of price cutters, and it is now equally clear that the manufacturer can act on information received without solicitation.

The Beech-Nut case is particularly significant for the arguments which the court failed to recognize. No recognition was given to the fact that competition entered in when the original price of the branded article was set by the manufacturer. Instead of considering the part played by competition in the original determination of the price, the court held that price maintenance restricted competition, whereas it really

[6] *Dr. Miles Medical Co.* v. *John D. Park & Sons Co.*, 220 U. S. 373, 31 Sup. Ct. 376 (1911).

[7] *U. S.* v. *Colgate & Co.*, 250 U. S. 300, 39 Sup. Ct. 465 (1919).

[8] *Harriet Hubbard Ayer, Inc.* v. *Federal Trade Commission*, 15 Fed. (2d) 274 (C. C. A. 2d, 1926).

[9] *U. S.* v. *A. Schraders Son*, 252 U. S. 85, 40 Sup. Ct. 251 (1920).

[10] *Federal Trade Commission* v. *Beech-Nut Packing Co.*, 257 U. S. 441, 42 Sup. Ct. 150 (1922).

does no more than to limit competition to manufacturers. It is interesting to note in this connection that in his dissenting opinion Mr. Justice Holmes held that the company already had "a monopoly of its own goods and that no one could compete with it with regard to those goods." As early as 1911 Mr. Justice Holmes stated in his dissenting opinion in *Dr. Miles Medical Company* v. *Park & Sons Company*[11] that he could not "believe that in the long run the public will profit by this court permitting knaves to cut reasonable prices for some ulterior purpose of their own and thus to impair, if not to destroy, the production and sale of articles which it is assumed to be desirable that the public should be able to get." In other words, Mr. Justice Holmes has voiced the opinion that predatory price cutting is not beneficial and has recognized that a company already has a monopoly of its own branded goods, that these goods compete against the product of other manufacturers, and that this competition can be fostered rather than lessened through the maintenance of resale prices.

The decision in the Beech-Nut case clearly overlooks the fact that there is a distinct difference between a manufacturer competing against other manufacturers and against himself through price cutting by his dealers. Only in the dissenting opinion was it recognized that the manufacturer's interest in his product did not pass with title.

Recent Tendencies

Of recent years the courts have assumed a slightly more lenient attitude with respect to price maintenance. It would seem that it is slowly being realized by the courts that price maintenance is not an unmixed evil. In the case of the *Toledo Pipe Threading Company* v. *Federal Trade Commission*, a decision handed down in the Sixth Circuit held that "manifesting to dealers an intention to act upon all reports of violations sent in by them" and "informing dealers that price cutters reported had been refused sales" were the "irreducible minimum of means by which one could maintain the policy" of resale price maintenance.[12] This decision would seem to condone the policy of price maintenance, but the courts continue to condemn any overt attempt on the part of manufacturers to obtain the names of price cutters. Yet in a rather recent case the distinction was drawn between a broad merchandising policy of price maintenance and occasional instances of cooperation between manufacturers and dealers intended to maintain resale prices.[13] The court held that an order to desist from occasional isolated practices tending toward price maintenance was not warranted.

Of especial interest, bearing on the court's attitude toward price maintenance, is the case of the *United States* v. *General Electric Company*,[14] decided by the Supreme Court in the October term of 1926. In this case it was held that a manufacturer might legally employ "distributors" to market his goods and account for the proceeds of the sales. As long as the manufacturer remained the "owner of the goods" and the distributors "pure agents," the manufacturer might legally fix the price of sale by its selling agents. The effect of this decision is likely to be the encouragement of

[11] *Dr. Miles Medical Co.* v. *John D. Park & Sons Co.*, 220 U. S. 373, 31 Sup. Ct. 376 (1911).

[12] *Toledo Pipe Threading Machine Co.* v. *Federal Trade Commission*, 11 Fed. (2d) 337 (C. C. A. 6th, 1926).

[13] *Frey and Son* v. *Cudahy Packing Co.*, 256 U. S. 208, 41 Sup. Ct. 451 (1912).

[14] U. S., 47 Sup. Ct. 192 (1926).

less economical methods of distribution. Since the manufacturer can employ agents or sell direct to the consumer through his own retail outlets and thus be assured of maintaining resale prices, this decision is likely to result in such methods of distribution, which for the most part are less economical than distribution through wholesalers. The manufacturer may feel that the added expense incurred in distribution through agents or his own retail outlets is more than offset by the ability to control resale prices. But this ability to sell to consumers direct will be limited to those manufacturers with large resources. The decision thus tends to play into the hands of the large manufacturer and discriminates against the small manufacturer.

Present Status of Price Maintenance

As a result of various court decisions it seems fairly clear that contracts between the manufacturer and wholesalers or retailers designed to maintain resale prices are illegal. Yet the maintenance of resale prices is, in itself, perfectly legal. The courts have never condemned the policy of price maintenance, but have tended to frown on most practices likely to result in price maintenance. Although the courts have consistently held that it is the undisputed right of the trader to deal with whomever he pleases, it will generally be held that any effective attempt to secure the names of price cutters is illegal. In other words, it is legal to maintain prices, but any effective attempt to put the policy in practice is more than likely to be disapproved by the courts.

The result of these decisions leaves only one recourse open to the manufacturer of branded merchandise desiring to maintain resale prices. He can employ a system of distribution whereby he retains title to the goods. Obviously this involves great expense and trouble, and such a system can be employed only by the large concern. Thus, in their endeavor to enforce competition, the courts have adopted an attitude which is likely to lead to uneconomical systems of distribution and which puts the small producer at a disadvantage as compared with the large manufacturer. One wonders whether the court here realizes the business and economic significance of its interpretation.

Possible Solutions of the Manufacturer's Difficulty

Regardless of the legal aspects of price maintenance, it must seem evident to the layman that predatory price cutting is a form of unfair competition. Against the retailer who reduces prices but who is able to do this because of his greater operating economies, the manufacturer has no grounds for complaint. But against the dealer who cuts prices below actual costs simply because he regards this as a good advertising medium with which to induce customers to visit his store, the manufacturers should have some legal recourse.

Also, the manufacturers should have recourse against the dealer who deliberately cuts prices in order to destroy the manufacturer's market. Nevertheless, it has been held that, even though a dealer should sell below cost with the expressed purpose of destroying the manufacturer's market, he could not be enjoined since the right to offer property for sale at any price is an incident to its ownership.[15] While this may be the law's side of the case, it is certainly not the business man's. Predatory price cutting of this nature is in essence just as

[15] *Passaic Print Works* v. *Ely & Walker*, 105 Fed. 163 (C. C. A. 8th, 1900).

much unfair competition as some of the practices followed by the trusts in the early days before the Sherman and Clayton acts were passed. The Federal Trade Commission should recognize the unfair nature of such competition.

The attitude of the courts is so firmly settled that it will be difficult indeed for a more lenient attitude towards price cutting to be adopted. Even though the business aspects of the case have been entirely overlooked, it will be difficult for the courts to reverse their attitude.[16] The solution of the difficulty would seem to be in the passage of legislation permitting various practices leading to price maintenance or in the adoption of a more farsighted attitude by the Federal Trade Commission and its willingness to recognize the unfair nature of predatory price cutting. Until price maintenance is legalized by statute or predatory price cutting declared unfair competition, the manufacturer must continue to resort to experiment to see how far he may lawfully go.

[16] In a commentary on the General Electric case, *Columbia Law Review*, Vol. 27, p. 573, the opinion is advanced that "after its extreme decree in the Beech-Nut case the position which the Supreme Court took towards the arrangement in the General Electric case makes one wonder whether perhaps the court is not, in fact, receding in its attitude towards price maintenance."

REVIEWS OF BUSINESS LITERATURE

SOME RECENT BOOKS ON SALES MANAGEMENT

DURING the past year or two there have been several publications in an effort to fill one of the numerous conspicuous lacunae in business literature, namely, that embracing the field of sales management. Several of these have appeared in the United States during the last few months, while Europe, which seems bent upon emulating American business literature, both good and bad, has likewise produced several volumes on sales management.

The English work by C. C. Knights[1] can be dismissed as resembling a dilute adaptation of superficial American literature on the corresponding subjects. The German work by Schnutenhaus[2] is more carefully and thoughtfully done. It is typically a work of German scholarship, based on meager material which is largely secondary and almost entirely American, as the title indicates. Compared to previous German literature upon sales management, Schnutenhaus shows considerable advance, although in relation to his American sources his contribution is not a material one. Nevertheless, his discussions of organization, accounting, and control deserve reading.

Of the three most recent general works upon sales management two are much alike in some respects. Mr. Hayward[3] and Mr. White[4] have collaborated in two earlier volumes, but in this case they have issued separate volumes with different titles, perhaps in order to make two books grow where one grew before. Both are largely compilations of existing practice fitted into different outlines. Such compilations have some usefulness for the executive if he remembers that at the time the book gets into print many of the companies may have changed their practices in spite of the utmost efforts to bring the book up to date. The critical analysis and development of conclusions drawn from a sufficient quantity of data are of much more lasting value than the outline of specific practices of specific concerns. Both volumes are subject to the criticism of superficiality, though Hayward contains more specific material than White, and White tends to recognize some of the broader problems involved in the type of salesmanship and volume of sales and accounting which are neglected in Hayward.

Bonney's[5] book is neither a compilation, nor does it aim at completeness.

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[1] Knights, C. C., *An Outline of Sales Management,* New York: Isaac Pitman and Sons, 196 pp.

[2] Schnutenhaus, Dr. Otto R., *Die Absatztechnik der Amerikanischen Industriellen Unternehmung,* Berlin, 1927, 171 pp. The book is divided into three parts: (1) The Delimitation and Determination of Objectives of Marketing Technique, (2) The Foundation and Execution of Marketing Technique, and (3) The Improvement of Marketing Technique.

[3] Hayward, Walter S., *Sales Administration,* New York: Harper and Brothers, 1926, 498 pp. Section 1—Introduction; Section 2—The Product; Section 3—The Market; Section 4—Marketing Methods; Section 5—Management of the Sales Force; Section 6—Sales Promotion; Section 7—Product Adjustment to Market Demand.

[4] White, Percival, *Scientific Marketing Management,* New York: Harper and Brothers, 1927, 318 pp. Part 1—Introduction; Part 2—The Present Situation in Marketing; Part 3—Review of Modern Marketing Practice; Part 4—Building a System of Scientific Marketing; Part 5—Departmentization of Marketing Activities; Part 6—Installing Scientific Marketing.

[5] Bonney, H. C., *Directing Sales,* New York: The Ronald Press Company, 1927, 121 pp.

It is farthest from an exhaustive treatment, yet it contains some worth-while discussion. In a volume one-third the size of each of the others the reviewer receives the impression of straight thinking. Its organization is not logical, omissions are glaring, the treatment of almost every topic is extremely sketchy, yet at times Mr. Bonney puts his finger very close to the sore spots in American distribution management. His analysis is occasionally penetrating particularly in his various discussions relating to the volume of business which a company should attempt to do. His homely philosophy recognizes that the rank and file of men must be led, that the human factor is a source both of weakness and of strength. While Mr. Bonney has observed several sales organizations, there is an impression that he has thoroughly assimilated the facts that he has gathered.

The field of sales management is passing through a period of rapid transition. Changes in sales methods succeed one another with amazing rapidity. Sales managers come and sales managers go, but in spite of all the changes, little fundamental progress seems to have been made. There is need for much study of the points of strength and weakness of present practice, but it should be made with the full knowledge of the facts in particular cases, and the knowledge of many more cases than are available at present. It is difficult to apply scientific methods to the study of specific sales problems. It is extremely difficult to arrange experiments under controlled conditions. The amount of data required is large and is slow and costly to procure. The number of variables is such as to make conclusions tentative even after long study.

One of the many problems which needs to be investigated in sales is that regarding the possible validity of psychological tests for the selection of salesmen. Bonney dismisses such tests with little more than a paragraph in which he is noncommittal but classifies them with phrenology, graphology, and physiognomy. White devotes to the selection of salesmen less than two pages, in which he is likewise noncommittal as to such tests. Hayward does not mention them in his paragraph on selection. The selection of the right man for the right place is certainly a major problem in any selling or other organization, and the present status of tests is certainly not such as to warrant summary dismissal, unless a student is not looking forward. A few businesses have used them successfully; more have employed them unsuccessfully; but there is no body of recorded fact from which the scientist can arrive at conclusions as to why the tests were successful or unsuccessful in particular instances. The testing of the tests themselves for accuracy is a long and tedious process, one with which the average executive has little patience. The psychological test is discarded by some executives without adequate reason because it does not work immediately, although the same executives would develop, perfect, and test a machine over long periods before putting it on the market. We need much more coordinated and painstaking investigation, which cannot be accomplished without the fullest cooperation of business men and scientists in search of truth where truth is still obscure.

Obviously, the psychological aspects of the selection of salesmen present only a few of the numerous problems which require the collection of facts and experiment and study by competent students. And only if much more careful study of sales problems on a truly scientific basis —with correlative research in pure sci-

ence as a background — is undertaken and carried on, can we hope for real progress in the reduction of the amount of human effort involved in the distribution of commodities.

H. R. T.

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